THE CULTIVATOR.

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

MONTHLY NOTICES.

☞ COMMUNICATIONS received the last month, as follows:—J. M. E., Wm. Partridge, Levi Durand, E. H. Northrup, H. N. Gillett, A. R. M'Cord, A Young Farmer's Nos. 1, 2 and 3, S. Howard, A. of the North, J. C., Jas. Gowen, G. L. Beckwith, B. J. Goldsborough, G. Butler, B. Swift, E. Townley, A. Hampton, C. N. Bement, Geo. Woodfin, S. W. Jewett, H. A. Parsons, L. Physick, G. B. Smith, L. Smith, S., Cephas, J. W. A. Saunders, Experimenter, A Subscriber.

☞ We cannot refrain from expressing the gratitude due to our numerous friends, for the great number of valuable communications with which they continue to furnish us from month to month, thus enabling us to sustain, to its full extent, the high interest which has given to the Cultivator an influence and a circulation hitherto unequalled by any publication devoted to the useful arts. We would also render to those who have so successfully used their exertions to obtain subscribers for the present vol., our hearty thanks. It is only by such efforts on the part of our friends, in the midst of the general falling off, on account of the "hard times," that we can hope to retain any thing near our former number of subscribers.

☞ The valuable papers of Mr. SMITH on the Use of Guano, and of Mr. PHYSICK, on the culture of Indian Corn, shall appear in our next, as also those of Mr. GOLDSBOROUGH and Mr. DARLING. We cannot decide upon the publication of the Nos. of "A Young Farmer," until the whole series is received. It may be necessary to condense them in some degree, in order to give them a place, and this we think may be done without injury, when all the papers shall have come to hand.

"Q. E. D."—We should be pleased to publish the communicat on of "Q. E. D." were it not for the difficulty we find in making room for the mass of matters, coming more strictly within the range of subjects to which the Cultivator is specially devoted, which are constantly accumulating on our hands. For the same cause, we have been obliged to lay aside several valuable papers, during the past year—papers which, under other circumstances, we should gladly have published.

☞ We are indebted to HENRY WATSON, Esq. for a copy of the "Transactions of the Hartford Co. Ag. Society for 1842."—To Hon. D. D. BARNARD, M. C., for various Public Documents.—To GEO. VAIL, Esq. Troy, and ALEX. WALSH, Esq. for copies of Mr. Van Rensselaer's Address before the Rensselaer Ag. Society in Oct. last.—To EDMUND RUFFIN, Esq. Petersburg, Va., for a copy of the 3d edition of his "Essay on Calcareous Manures." This edition of this valuable work is greatly enlarged and improved, making a super royal octavo vol. of 320 pages—price, bound in flexible covers for mail conveyance, $1.25, or $5 for five copies.—To R. H. WILSON, Esq. for Prof. Pendleton's Address at the first exhibition of the Ohio and Brooke Ag. Society, held at Wheeling, Va. Oct. 19, 1842.—To. E. P. LANGDON, Esq. for the 13th Report of the Condition of Common Schools in Cincinnati.—To I. R. BARBER, Oxford, Mass., for Proceedings of the N. E. Silk Convention, held at Northampton, in Sept. last. This pamphlet gives abundant evidence of the certain though slow progress of this important branch of business.—To H. L. ELLSWORTH, Esq. Com. Patent Office, Washington, for parcels of "Valparaiso" and "White blue stem Wheat," to both which we shall give a fair trial. Also for a copy of his Annual Report to Congress, embracing a variety of statistics and papers of great interest to the agriculturist, and to which we shall have occasion hereafter frequently to refer.—To. Maj. J. B. DILL, Auburn, for an Address before the Cayuga Co. Ag. Society, at its annual meeting, Jan. 10, 1843, by H. S. Randall, Esq. of Cortland—a very appropriate and well written Address, alike creditable to its author and the Society before whom it was delivered.—To some unknown friend for Mr. WATSON'S Address before the Clinton Co. Ag. Society.—To the EDITORS of the *New Farmer's Journal*, London, for the files of that valuable paper for January.

BOARD OF AGRICULTURE.—Mr. Dickinson, chairman of the Committee on Agriculture in the Senate of this State, brought in a bill on the 20th ult., entitled "An Act to Promote Agriculture," which, 1st. Amends the Act, passed May 5, 1841, so as to make that act permanent, instead of for five years.—2d. It requires the Agents of the State prisons to employ so many of the convicts as can be advantageously employed, in the manufacture of silk.—3d. It provides for the appointment by the Legislature, of eight persons, one from each Senate District, who, with the Secretary of State, shall constitute a Board of Agriculture—the said Board to meet annually on the first Tuesday of Jan., and is authorized to require annual reports of the condition of Agriculture from the several Agricultural Societies. The members of the Board to hold their offices for three years, and not to receive any compensation for their services.—4th. It directs that one copy of the series of the Natural History of this State, now in course of publication, shall be transmitted to every town clerk in the State, to be and remain the property of the town, and to be loaned under such rules as the officers of the town may establish; and also that a copy of said work shall be furnished to each college and academy in the State, and to the American Institute. That this bill will receive the hearty approbation of the Agriculturists of our State, we cannot doubt; and we trust that it will, with such amendments as may be found necessary in its details, receive the sanction of the Legislature.

MR. COLMAN'S TOUR.—We are glad to see that the subscription for the proposed work of Mr. Colman, is rapidly increasing. The Philadelphia Society for the promotion of Agriculture, at a late meeting, subscribed for forty copies. A subscription is left at the office of "The Cultivator," in which we shall be glad to enter the names of those who may wish to become subscribers.

JOHNSON'S FARMER'S ENCYCLOPEDIA AND DICTIONARY OF RURAL AFFAIRS.—Carey & Hart, booksellers, Philadelphia, have commenced the republication of this valuable work, which was published in London in monthly parts during the years 1841-2. This edition is to be "enlarged, improved, and adapted to the United States, by A Practical Farmer," and if the editor performs his work well, will prove a valuable acquisition to the American agriculturist. It is to be published in 16 semi-monthly numbers, 64 pages octavo, at 25 cents each, making the price $4 for the volume, which is less than one-third the cost of the English edition. The first number is now before us. It is introduced to the reader by a well written introduction from the American editor, and ornamented with a lithographic plate of three Short Horn Cows, copied from a steel plate, engraved by Landseer, for Steven's "Book of the Farm." It is printed on fine paper, and got up in good style, and our only regret is that the publishers have not given us the Short Horns in as beautiful style as they appear in the plate from which they are copied; and we cannot but believe they would find it to their interest to substitute steel plates, in the style of the Farmer's Magagine and Farm Book, for the lithographic prints.

THE NORTH AMERICAN REVIEW.—The leading article of the Jan. No. of this work, is a just and well written review of Downing's volumes on "Landscape Gardening," and "Cottage Residences." It also contains a number of capital papers, of which we may mention "The English Abroad," "Calderon's Life in Mexico," "Gray's Botanical Text Book," "Charles Dickens," &c. &c. Boston, published quarterly by D. H. Williams.

"THE PRAIRIE FARMER."—The Union Agriculturist at Chicago, has taken the above name, and appears in a new form and dress. So far as we could judge from a hasty glance at the first number, a great improvement has been made in its appearance. Before we had an opportunity of looking it over, it was taken from our office without leave, and much to our regret. Will friend Wright please send us another copy? and also Nos. 5, 10 and 12, of vol. 1, of the Un. Ag. and the Iadex to vols. 1 and 2.

THE SOUTHERN CULTIVATOR is the title of a semi-monthly journal, of which we have received the first No. from Augusta, Ga. J. W. & W. S. Jones, publishers, at $1 a year.

CORN-STALK SUGAR.—In December last, we received a number of inquiries from Mr. Wurmser of Hamilton, O., on the subject of making sugar from corn stalks, which we forwarded to Mr. Webb of Delaware, in the hope that he would favor us with answers; but as he has not, we shall in our next number give such information as we can obtain in answer to Mr. Wurmser and some others who have asked for information on this subject. A. P. Wightman, Esq. of Granville, O., informs us that he and some eight or ten others, made an effort last year to make sugar from the corn stalk. He says: "We obtained first rate molasses, but only a little of it crystalized. We think it would be a good business, and of vast importance to this whole western country, if some method could be discovered to make it crystalize readily."

To W. J., *Bardstown, Ky.*—The price of Barnaby & Mooer's side hill Plow is as follows:—No. 3, $10—No. 4, $10,50—No. 5, $11. Coulters, if wanted, laid with steel, $2—wheel, $1—extra shares, 50 cents. To be had of the inventors at Ithaca, N. Y.

CUTTING ROOTS.—Mr. B. Swift, of Washington, Dutchess Co., informs us that he has made a machine for cutting all kinds of roots that the farmer wants to feed, at the rate of 1½ bushels per minute—the crank turned by hand. It is simple and substantial, and can be sold at from $10 to $12. In answer to his question, we would state that there are now several machines for this purpose, one of which is described by Mr. Bement in another part of this paper; and that the success of his, will of course depend on its merits in comparison with others. We believe but few of these machines are sold, as they are but little known as yet.

LEAF HAY.—In looking over a parcel of letters a few days since, we found a communication, received in 1841, from our highly valued correspondent, Za. Drummond, Esq. of Virginia, which was mislaid at the time of its reception, in which he says that he had gathered and packed away, moderately salted, about four tons of leaves, which he had no doubt his cows would eat freely. If not eat, they were to be used as litter, and thus converted into manure. Will Mr. D. please inform us as to the result of his experiment in using them for fodder?

SOWING CORN AND CLOVER.—P. F. Wislar, Esq. of Columbia, Pa., in a letter of 28th Jan., says:—"The weather has been mild here. I last week plowed a five acre orchard to the depth of ten inches, which I intend early in the spring to sow broad cast with Indian corn and clover seed. No experiment of the kind has as yet been made in this neighborhood."

SOUTH CAROLINA.—The Governor of this State, has appointed EDMUND RUFFIN, Esq. the talented ex-editor of the Virginia Farmer s Register, to make an agricultural survey of South Carolina. The duty could not have been placed in better hands.

RICE.—A subscriber asks—"Cannot some of your southern readers give us an article on the most improved method of cultivating Rice? As this grain is an important article of consumption, I think an article on its cultivation would be acceptable to your readers." We should be glad to receive such an article, and trust that some of our southern friends will answer this call.

TOWNLEY'S PATENT PREMIUM BEE HIVE.—In a letter from Mr. Edward Townley, the patentee, 75 Thompson-st., New-York city, we have the following description of this hive:—"My hive is composed of two apartments, lower and upper; the bees are swarmed in the lower apartment; there the queen lays her eggs, there the nurse bees do their work; there they lay up honey sufficient to keep them through the winter; in short, it is their nursery, their dining-room, their palace, and their home. The upper part of the hive contains the boxes where they lay up their surplus honey for you, and which you may take as fast as they are filled, and put empty ones in their places. I have taken 40 pounds of honey from one hive which was made in 28 days; the hive setting in my house in the center of the city of New-York. Families in general, in cities or towns, might have a hive of bees and raise honey for their own consumption. I have a hive setting in my parlor, which makes more honey than my family eats. These hives certainly have a decided superiority over all hives now in use; and are generally preferred above all others, especially for economy and profit. They are easy to manage, from the perfect simplicity of their construction; and the happy effects produced by the wire screen bottom in ventilating the hive and in keeping out the bee moths, and for maintaining an equal degree of temperature. I have a number of different kinds of hives which I intend to bring before the public in due season. I shall give a description of my observatory hive in the next number of the Cultivator." (See advertisement.)

NEW-YORK STATE AG. SOCIETY.

At the regular meeting of the Executive Committee, at the office of the Cultivator, on the 2d Wednesday of February, the following members were present: Messrs. Bement, Hillhouse, McIntyre, Prentice, Tucker, and Walsh.

On motion of Mr. Tucker, the President, Mr. Sherwood, and Mr. Langworthy, were appointed a committee to prepare the Premium List for the present year, and also to fix the time for the next Fair.

The Reports received from the several County Agricultural Societies, were laid before the Board by the Rec. Secretary, and on motion of Mr. Bement, were referred to Mr. Tucker, to be condensed and arranged for publication.

The following letter from Sir Charles Gordon, Sec'y of the Highland and Ag. Society of Scotland, was read:

Highland and Agricultural Society's Hall, }
Edinburgh, Dec. 23, 1842. }

Sir—I had the pleasure of receiving your letter of 15th June, last, with a copy of the Transactions of the New-York State Agricultural Society for the year 1841, for the Highland and Agricultural Society of Scotland.

I laid your letter and the Transactions, before the first meeting of the Board of Directors, and before the first monthly meeting of the Society for the season. The Transactions, which contain valuable papers, were examined by the members with much interest, and I have the pleasure to prefix an official acknowledgment for the present.

I was instructed to convey to your Executive Committee, the thanks of the Board, for the obliging offer they make, to afford information on American Husbandry. The Highland and Agricultural Society witness with great satisfaction, the active spirit evinced for Agricultural improvement in America. This improvement must necessarily be greatly promoted by the numerous agricultural associations, and by your various agricultural publications, some of which the Society regularly receives. I am, Sir, your most ob't serv't,

Charles Gordon, *Sec'y.*

Luther Tucker, Esq. Sec'y N. Y. S. Ag. Society,
Albany, N. Y.

☞ The next meeting of the Executive Committee, is to be held on the 2d Wednesday of March, at the Society's Room, in the old State Hall. The next meeting of the *Farmers' Club*, will be held at the same time and place.

PREMIUM CROPS IN NEW-YORK.

Below we give, in a somewhat condensed form, the statements of the several gentlemen to whom were awarded Premiums on Field Crops, by the N. Y. State Ag. Society, at its late meeting:

Indian Corn—*First Premium*—122 *bushels per acre.*

On the 23d of May, 1842, I plowed up one acre of green sward, for the purpose of planting it with corn. After plowing it once, I harrowed it well, lengthwise of the furrows. I then marked out the ground so that the rows and hills should stand precisely two feet apart either way. On the 25th of the same month, I planted it, and was careful to put precisely three kernels in each hill; when it was large enough, I hoed it, and continued to hoe it three different times. No other tool was used in the process of hoeing and cutting up the weeds, but the hoe; being very careful to keep the weeds and grass down as much as possible, and in hoeing, to leave the ground as near level as possible each time.

I permitted the corn to stand until it was fit for harvesting, without cutting up or topping.

Between the 10th and 15th November, I began to husk it, and also to weigh the said corn. I found the aggregate weight from the said acre, in the ear, 13,286 lbs., of a good quality.

About the first day of January, 1843, I thrashed out all the sound corn that grew on said acre, and measured it in a sealed half bushel, and weighed it, and found that it fully held out 60 pounds to the bushel, and it produced me one hundred and twenty-two bushels of good merchantable corn. My team and man were occupied one day in plowing the said acre; half a day harrowing; 2 days labor, planting; and 6 days labor, hoeing; and 6 days labor, harvesting, threshing, and weighing.

122 bushels corn, at 37½ cents, ...	$45.75
Expenses, ...	14.00
	$31.75

Ira, Cayuga co. Jan. 1843. Sam'l Phelps.

Indian Corn—*Second Premium*—89 *bushels per acre.*

Luther Tucker, Esq. Secretary of N. Y. State Ag. Society—I send you a statement of my crop of Indian corn, the present season. The land on which it was raised, is a warm gravelly soil, and has not had any manure applied for six years. It had been pastured for the last six years, until fitting for the present corn corp. The 30th day of April, carted and spread upon said piece, nine loads of straw manure, and plowed under. May 2d, carted and spread upon the remainder of said acre, eleven loads of straw manure, and plowed under. May 5th, carted and spread upon the furrows, ten loads of rotten manure, and harrowed lengthwise of the furrows. May 9th, planted said piece; rows three feet apart each way. The 24th of May, plastered and ashed it, at the rate of ten bushels to the acre—nine of ashes to one of plaster. June 6th, went through with the cultivator each way. June 7th, hoed said piece, but not the corn, for the frost had cut about three-fourths of it level with the ground. June 24th, went through with the cultivator both ways. June 25th, hoed it again. July 12th, went through with cultivator both ways. July 13th, hoed it the third time. July 15th, sowed on it one bushel of plaster, broadcast. September 17th, cut it up at the roots, and put it in stooks. Oct. 1st and 3d, husked and weighed the entire crop, which amounted to 8,540 lbs.; then weighed 500 lbs. and put it by itself. Dec. 6th, weighed it again, and it weighed 391 lbs., making in the whole, on the 6th of Dec., 6,678 lbs. According to the weight of Dec. 6th, there would be eighty-nine bushels of corn, allowing seventy-five lbs. to the bushel. Seventy-five lbs. of ears of corn will make fifty-nine lbs. of shelled corn—or according to the first weight in Oct., allowing seventy-five lbs., there would be one hundred and thirteen bushels and sixty-five pounds. The amount of corn fodder was four loads on said piece.

Cost of Cultivation.

Plowing, one day, ...	$2.00
Harrowing, one half day, ...	1.00
Thirty loads of manure, and drawing,	9.50
Seed corn, 12 quarts, ...	37½
Planting, two days, ...	1.50
Hoeing, seven days, ...	5.25
Nine bushels ashes, ...	1.12
Two bushels plaster, ...	25
Cutting and shocking, two days, ...	1.50
Husking and weighing, seven days, ..	5.25
Horse and hand, with cultivator, ...	1.00
	$26.74½
89 bushels, at 37½ cents, ...	$33.37½
Expenses, ...	26.74½
	$6.63

Volney, Oswego co., Dec. 28, 1842. Wm. Ingell.

Mr. Osborn's Statement.

Five Acres.—My corn ground was a clover ley of three years standing; had been mowed two years; never had much manure if any. Plowed but once, dragged and rolled. The corn was planted May 10th, and 11th, in drills about 3½ feet apart. The corn was much injured by the wire worm and a severe hail storm. The expenses of the crop were as follows:

125 loads manure, at 25 cents, ...	31.25
8 loads of muck, ...	2.00
3 days raking manure in furrows, ...	1.50
8½ days plowing, ...	17.00
1½ days dragging and rolling, ...	3.00
2 days planting with drill, ...	1.50
2 bushels seed corn, ...	2.00
1 day planting over corn, and seed, ..	75
8 bushels plaster, sown broadcast, and sowing, ...	1.50
24 days hoeing, ...	18.00
3½ days with cultivator, ...	3.50
12½ days cutting and stooking, ...	9.38
36 days husking and securing, ...	27.00
2 men, and team, to stack stalks, ...	4.00
	$122.38

Equal to $21.47½ per acre.

Product.

429½ bushels at 37½ cents, ...	$160.97
Stalks, equal to 4 tons hay, ...	20.00
	$180.97
Expenses, ...	122.38
Profit, ($11.56 per acre,)	$57.59

Joseph F. Osburn.

Port Byron, Dec. 16, 1842.

Barley.—*Mr. Wright's Statement.*

1st. Soil in good condition at the commencement of cultivation, composed of clay and gravel. Plowed twice, seed harrowed in.

2d. Previous cultivation, once plowing for spring wheat, and harrowed in after corn upon the sward; twenty loads of manure from the yard, at the time of sowing the spring wheat; product, twenty-five bushels per acre.

3d. About twenty loads of yard manure used the present season.

4th. The quantity of seed, three bushels of two rowed barley: sowed the 10th of May, broadcast.

5th. Harvested as follows:—Mowed; lay in swarth two days; raked and put in cocks, and carted to the barn next day.

Expense of Cultivation.

20 loads of manure, and carting, 2s....	$5.00
Plowing twice, ...	1.50
3 bushels barley, 3s.	1.13
Harrowing, ...	50
Harvesting, carting, and threshing, ...	3.50
Interest on land, at 7 per cent, ...	3.50
	$15.13
Product, 53 bushels, 38½ lbs.	$21.50
Straw, ...	2.00
	$23.50
	15.13
Profit, ...	$8.37

Vernon, Oneida co. Dec. 1842. N. S. Wright.

Barley.—*Mr. Vandeveer's Statement.*

My barley was sown upon land in potatoes last year, once plowed and harrowed, at the rate of about three bushels per acre. Estimated expense:

Plowing, harrowing, and sowing, ...	2.00
Seed, ...	1.88
Harvesting and threshing, ...	3.00
	$6.88
Product, 40 bush., 14 quarts, at 40 cts..	$16.09

T. J. Vandeveer.

Amsterdam, Mont. co., Dec. 1842.

Statement of the method of cultivation, &c. of one acre of Rye, raised by Israel F. Goodwin of Westmoreland, Oneida co.

Soil, a deposite from red rock formation, with muck, and a minute portion of clay, and perhaps sand; in high condition; no manure this nor the preceding year. In oats last year; plowed once; 70 bushels to the acre.

Seed, 1½ bushels, ...	$1.13
Sept. 1st, sowed, plowed once, 1 day, .	2.00
Harrowed twice, half day, ...	1.00
1¼ days, reaping, ...	1.50
Threshed and cleaned, by hand, ...	2.50
Interest on land, $40 per acre, ...	2.80
	$10.93
Amount of crop, 32 bushels and 36 lbs. This was a choice specimen of grain, and was sold principally for seed, at 75 cents per bushel, ...	$24.38
Deduct expenses, ...	10.93
Profit, ...	$13.45

Mr. Vandeveer's Statement.

My rye was sown on oat and pea stubble; soil, a yellow loam.

Once plowing, ...	$2.00
Harrowing and sowing, ...	1.50
Harvesting and threshing, ...	5.00
	$8.50
Product 28 bush. 29 quarts, at 75 cents,	$21.04

Amsterdam, Dec. 1843. T. J. Vandeveer.

Oats.—*Mr. Phelps' Statement.*

In obedience to the rules, regulations, and requirements, of the New-York State Agricultural Society, and for the benefit of all who are engaged in agricultural pursuits, I make the following statements:

On the 10th day of May, 1842, I had 30 loads of manure drawn upon one acre of land, and spread it evenly, or nearly so, and on the 16th day of same month, I plowed the acre well, and harrowed it thoroughly, and sowed five bushels oats on said acre, and dragged them in. The whole time of plowing and harrowing, was two days; two days harvesting and securing said crop of oats, and four days threshing, cleaning up, and measuring the same; producing therefrom, *one hundred and two bushels* of first quality merchantable oats.

In the same field, I sowed one and a half acres to oats, *without manuring.* I took full as much pains plowing, harrowing, and securing the grain from this one and a half acres, as I did on the said acre. I sowed on this piece, four and a half bushels, and it produced me but eighty-five and a half bushels; clearly showing to my mind, that the greatest benefits always arise from a liberal use of manure, if put on the ground in a proper state of fermentation, and especial care taken to distribute it over the surface evenly.

Ira, Cayuga co. Dec. 1842. Sam'l Phelps.

Statement of Oats raised on one acre of land, by Wm. A. Russell, of the town of Salem, county of Washington, and state of New-York.

The soil is what is generally termed a clay loam; has been in potatoes for the last five years, with the exception of one year, when it was sown to oats; has had a top dressing of about fifteen loads of manure, well rotted, per year, except this season. None the present year. Sowed about the 25th of April, two bushels and three pecks of seed, common oats. Land plowed once, and harrowed with a square harrow, and crossed. Grain reaped between the 1st and 10th of August, yielding fifty-eight dozen and six sheaves of oats. Threshed about the twentieth of September, producing by actual measurement, ninety-seven bushels and four quarts; that being the quantity grown upon, and the product of one acre. The expense of cultivation is as follows:

One day's work plowing, sowing and harrowing, ...	$2.00
Half day harrowing and sowing, ...	1.00
Seed, 2¾ bushels, ...	1.03
Reaping, raking and binding, and carting to barn, 4 days, ...	3.00
Half day for team, ...	1.00
	$8.03

Oats.—*Mr. Sheffer's Statement.*

The soil on which my oat crop was grown, is Genesee flats, a dark clay loam. The land had lain to meadow fourteen years previous to 1840; in the fall of 1840, it was plowed; in the spring following, corn was planted, and produced fifty bushels per acre. Plowed again in the fall of 1841; and in the spring of 1842, it was harrowed once, then sowed, two bushels of black oats per acre, on the 13th April; after which it was harrowed

twice, and afterwards rolled with a heavy roller; 15th June, they were 12 inches high, and were mowed by cutting to within 5 or 6 inches of the ground; 10th to 20th of August, they were harvested by reaping; after which they were hauled, stacked, threshed, and cleaned, by one of Pitt's separators.

Expense of the Crop.

6 days plowing in the fall,.....	$10.50
2 days harrowing, 1st time, spring, ..	3.50
Furrowing into lands, and sowing,...	1.25
Harrowing twice, 4 days, ...	7.00
Rolling, one day, 2 teams, ...	2.75
Mowing in June, 3 days, ...	2.25
22 days reaping,.....	16.50
15 days binding and stouting,.....	11.25
8½ men, and 4½ teams, hauling and stacking, ...	10 88
32 days with men, and twenty-one with horses, threshing, cleaning, and measuring, ...	34.50
	$91.40
Value of the crop, at 15 cts. per bush.	$130.69
20 loads straw, at $1.00 per load,.....	20.00
	$150.69

The average yield per acre of the above crop, is 91 bush. 28 lbs. GEORGE SHEFFER.

Wheatland, Dec. 1842.

PEAS.—*Mr. White's Statement,*

Of raising a crop of marrowfat peas, the season of 1842. The condition of the land, green-sward. It had been mowed and pastured for the last eight years. The field contained about three acres or more, as near as I could judge. The ground was plowed seven inches deep, which is the common depth when I turn green-sward. The quantity of seed sown, was ten bushels. They were sown upon the furrows, then harrowed the same way that it was plowed, and then corner ways, minding to turn back the sods that were torn up. There was no roller, bush, or manure, used on the ground. Time of sowing was the 13th day of April. Cutting and drawing them in, was the 20th, 22d, and 24th days of August. The time of threshing and cleaning one acre, the 1st of December. Number of bushels, 33⅓, measured. At the time of cutting the peas, I went and measured off from one corner of the field, one acre, and staked it out, so that they could be by themselves. When we drawed them in, we put them separate from the others; threshed and cleaned separate. The expense of cultivating, harvesting, threshing, cleaning, and seed, for the whole piece, is twenty-two dollars. GEORGE WHITE.

Rutland, Jefferson co. Dec. 1842.

POTATOES.—*Mr. White's Statement,*

Of raising a crop of Pinkeye Potatoes, the season of 1842. Previous cultivation of the soil: In the spring of 1840, I turned over about 2½ acres of green-sward, on which I raised wheat. The following season I plowed it but once, and then sowed it to barley, and worked it sufficiently with a harrow, intending it for mowing. But owing to the dry weather in the spring, the grass seed failed. It was not plowed in the fall, on account of the grounds washing; no manure used. The present season plowed once about seven inches deep, and then I drawed on twenty loads of yard and stable manure per acre, and then it was spread and harrowed. I then took the horse and plow, and run the furrows just three feet apart, and the potatoes were then dropped in the furrows, about two feet apart; potatoes cut, and three pieces put in a hill. The quantity of seed, twenty-five bushels. The quantity of land, one acre, one rod, and eight-tenths rod. The time of planting, the third day of May. Time of harvesting, the 26th, 27th, and 28th days of September. Number of bushels, 421¾. The expense of cultivating and harvesting the above crop of potatoes, is fifteen dollars and thirty-eight cents. GEO. WHITE.

POTATOES.—*Mr. Sheffer's Statement.*—1 *acre and* 20 *rods.*

The soil on which my crop of potatoes was grown, is Genesee flats, a dark clay loam. The land had lain to meadow, six years previous to the potatoe crop, and about one ton of hay was cut per acre, previous to the potatoe crop. 35 loads of stable and yard manure was applied in April, which was made the previous winter. The land was plowed once, the latter part of May; then rolled, then harrowed thoroughly, then furrowed 3 inches deep, and 3½ feet apart into rows, and planted the last days of May, and first of June, 30 bushels of Rohan potatoes, cut so as to average 3 eyes to a piece, and dropped in the furrows one foot apart, and one piece of potatoe in a place, after which they were covered with a hoe, 4 inches deep. They were hoed twice, the first time a cultivator was used, and then followed with a plow and hoe. The first hoeing was done when the potatoes were about 3 inches high; the second time, when the potatoes were 12 inches high, by plowing, and after hoeing. The crop was harvested the last of September, and first of October, by digging in the usual way with a hoe.

Expenses of Crop.

35 Loads manure, at 2s.....	$8.75
Seed, per bushel, 1s.	3.75
Plowing, 2 men, and 4 horse team, ..	2.63
Rolling, harrowing, and furrowing, 1 day, ...	1.75
Planting and culling seed, 4 day's work,	3.00
Cultivating and plowing, first time,...	1.25
Hoeing, 3 day's work, first time,.....	2,25
Plowing, second time, man and horse, half day,.....	63
Hoeing second time, 3 day's work, ...	2.25
Digging, 5 day's work,.....	4.38
Man with team, 2 days, hauling,.....	3.50
	$34.14
Value of the crop at 1s. per bushel, 451 bushels, and 28 lbs.....	$56.35

The average yield per acre, on four acres, 401 bushels, 10 lbs. GEORGE SHEFFER.

Wheatland, Monroe co., Dec. 1842.

BEETS.—*Mr. Sheffer's Statement.*

The soil on which my crop of sugar beets was grown, is Genesee flats, a dark clay loam. The condition of the land before planting this crop, was good; the crop previous, was potatoes, thirty loads of manure was put on to the acre, the crop three hundred and fifty bushels. Twenty loads of well rotted manure per acre, was then applied to the land, in the fall, and plowed in. The fifteenth of May, commenced plowing a narrow land on one side of the field, rolled and harrowed immediately, while the ground was moist; then planted in drills 27 inches apart, five lbs. seed to the acre; the seed was soaked in soft water until they were sprouted, then rolled in plaster. During the season, the crop was hoed three times. The first time the plants were thinned out from 10 to 12 inches apart; the second time the ground was hoed, and all the weeds cut; the third time a light plow was used, and afterwards the hoe. The crop was harvested the last of October, and first of November, by digging with a spade.

Expense of the Crop.

20 loads of manure, 2s. per load,.....	$5.00
Plowing in the fall, three-fourths day,.	1.31
Plowing in the spring, three-fourths day	1.31
Rolling and harrowing, 1 day,.....	1.75
Hoeing first time, 8 day's work, ...	6.00
Second hoeing, and transplanting, 8 days	6 00
Plowing, boy and horse, 1 day.....	1.25
Harvesting 14 days, and 4 days with team, ...	14.50
5 lbs. seed, at 2s. per lb.....	1.25
	$38.37
Value of the crop, 1026 bushels and 40 lbs., at 7 cts, per bushel,.....	$71.87

The average yield, per acre, of the above crop, is 955 bushels. GEORGE SHEFFER.

RUTA BAGAS.—*Mr. M Connell's Statement..—*1 *acre.*

The soil on which my ruta bagas were grown, was part sand and part clay. Two years before, had a crop of wheat, which was overrun with tares and pigeon weed. The following year, I took from it a crop of potatoes. After the potatoes came off, I plowed the land; also twice in the spring, followed by sufficient dragging and rolling. I then applied 24 wagon loads of good manure from the barn-yard. They were sown 19th and 20th of May.

2 lbs. seed, ...	$1.25
Drawing dung and drilling, 4 days,....	8.00
Three days plowing,.....	6,00
Hoeing, 8 days,.....	6.00
Taking up and dressing,.....	3.00
	$24.25
Product, 855½ bushels, at 8 cents, ...	$68.44
Expenses, ...	24.25
	$47.19

Canandaigua, Dec. 11, 1842. JOHN M'CONNELL.

CARROTS.—*Mr. Risley's Statement.*

The condition of the land previous to the present season, was as follows:—The crop of 1841, was carrots, a part for the roots, and a part for raising seed; the land had no manure put on it for the last ten years, but had been used for a meadow for the most part of the time. In the spring of 1842, there was a light covering of manure, say ten loads to the acre; land plowed twice, harrowed, and raked, and two pounds of seed sown in rows, sixteen inches apart. Sown the 1st of May, and harvested between the 25th of October, and the 1st of November, and the expense of cultivation was $31.00. The product on one acre, was 985½ bushels.

WM. RISLEY.

Fredonia, Chaut. co., Dec. 17, 1842.

THE SILK BUSINESS AT AUBURN.

THOSE who believe with us, that the only obstacles to the success of the culture and manufacture of silk in this country, are such as can be easily removed by perseverance and the capital necessary for its manufacture, will rejoice at the success which has attended the effort which has been made to introduce this business into the Auburn prison, by the enlightened and well directed efforts of Mr. Polhemus, the Agent of that institution. It will be seen from the following Report, recently made to the legislature, that notwithstanding all the obstacles attendant on the introduction of a new business, it has been made sufficiently profitable to pay as large an amount for the labor of the prisoners, as any other branch of industry affords:

Report of the Agent of the State Prison at Auburn.

The effort to introduce the manufacture of silk was commenced by the agent on the 20th of May, 1841, at the suggestion of the Governor. A single throwing mill was purchased, and a small quantity of cocoons was purchased in the vicinity of Auburn. Two convicts were assigned to the business, one of whom was employed in turning the wheel, and the other in preparing and serving the cocoons. After six months, four other throwing mills, built in the prison, were set in operation in the same manner, with an addition of eight convicts. In April last, water power was provided, and soon afterwards, five other throwing mills were put in operation, one of which was purchased, and the others built here. Two machines were subsequently added, and in August last, a steam engine was substituted on the failure of the water power. The effort had attracted some attention abroad, and a full and regular supply of cocoons was received, at prices varying from three to four dollars per bushel.

The machinery and apparatus now consists of the steam engine, 12 throwing mills furnished with 64 spindles, 12 bobbing wheels, 12 stationary wire swifts, 6 pair of upright swifts, 8 pair of horizontal swifts, 1 drying rack, 2 quilling mills and appartus, 1 set of reeling pins, 10 seventy-two inch reels, 12 forty-four inch reels, 1 band maker, a dye house with kettles, implements and fixtures, and other utensils and implements. The value of the machinery, utensils, and implements, is $2,115, which may be assumed as the cost, and of course, includes the labor of the convicts in constructing the same. The force employed in the manufacture of silk, has been increased from two to forty convicts, and the aggregate labor of the whole since the commencement, is 8,662 days.

The table hereto annexed, exhibits the result of the operation. The aggregate value of the avails of silk manufactured, in sewing silks, twist and fabric, together with the materials and products on hand at low rate market prices, is $12,763.26

The whole expense of the manufacture, exclusive of the labor employed, is..... 9,766.51*

Leaving the sum of $2,996.75

for the avails of the labor and interest on the capital; equal to 34 cents and 6 mills per day, for the labor of each convict. A reference to the agent's annual report, will show that this average is equal to that of the products of the labor of convicts under the contracts in mechanical departments.

The sewing silk produced is superior to the imported article, in strength and softness of texture, in smoothness and in color, and is preferred wherever both have been fairly compared.

The operation was begun merely as an experiment; neither the agent nor the operatives had any practical acquaintance with the manufacture.

The chief part of the machinery has been not only constructed, but invented here; consequently, there have been hindrances, delays, expenses, and losses, which could not occur in a business conducted with the advantages of skill and experience.

The cost of the material has been far greater than it would have been, had there been any general attention to silk culture in the country. The products encountered prejudices in the market, and the market value of such products has been depreciating, while the cost of the material has not diminished. When these facts are considered in connection with the machinery provided, together with the material and products on hand, and the condition of the business, and the fiscal condition of the prison, the agent has no hesitation in declaring that the business may be conveniently enlarged during the present year, so as to increase the force employed to an hundred men, with an increase of profits exceeding fifty per cent; and that it may be so extended as ultimately to employ all the convict labor which can be assigned to it, consistently with a proper conduct and management of the prison.

The agent therefore feels himself authorized to congratulate the Inspectors on the successful introduction of a new, most interesting, and most useful department of industry; which can be rendered at least as profitable as other modes of employing the convicts, while it is exempt from objections on every side. The financial advantages thus secured, could scarcely be exaggerated, since the results fortunately appear at a time when more than an hundred of the convicts are left unemployed by the operation of the law of 1842, designed to protect the mechanical labor of our fellow citizens against competition in the penitentiaries. But these advantages are inconsiderable, compared with the general and lasting benefits which must result from the successful establishment of the silk culture and manufacture in the United States, a department of industry that has enriched and aggrandized every country by which it has been adopted.

The manufactory here, will give the necessary impulse to the silk culture, while it will present a model and furnish instruction to our fellow citizens who may desire to engage in the manufacture; and by its successful results, encourage the employment of capital in the production of fabrics, which, though more generally used by the opulent, are still regarded as among the most indispensable articles consumed in every civilized country.

HENRY POLHEMUS, *Agent.*

State Prison, Auburn, Feb. 1, 1843.

"In the obscurity of the cottage, far from the seductions of rank and affluence, is nursed the virtue which counteracts the decay of human institutions; the courage which defends the national independence; the industry which maintains all the classes of the state."

* Of this sum $8,416 went into the hands of farmers, for cocoons and reeled silk.—*Eds.*

MEADOWS.

In the United States, where it is necessary to feed animals from three to six months, and where hay is the principal article for their subsistence, the meadows from which this hay must be derived, are of no little consequence to the farmer, and their formation and management, items of no little importance in the system of agriculture. It was formerly the custom to prepare a part of the farm for meadow, generally the most level and rich part, and this was used constantly for this purpose, always receiving a liberal portion of the manure of the farm, and never being plowed or cropped. The natural consequence would be, that the more valuable grasses would be displaced by the coarser ones, or by weeds, and the actual value of the product for food seriously impaired, even when not materially lessened in quantity. Occasionally, a farmer in advance of the age, would renew the better grasses on his meadows by manuring and re-seeding, followed by a thorough harrowing of the surface; but in general, the result was a gradual running out, with scarce an effort on the part of the farmer to prevent it.

A better method has followed the introduction of a rotation of crops, by which every part of a farm is in turn subjected to the plow, or is alternately cropped, and in meadow or pasture. In this method, there is no time allowed for the decline of the valuable grasses, and by their constant renewal, the introduction of the inferior grasses or useless plants is prevented. But it is evident that in this system, there must be a preparation of the soil previous to its being laid down to meadow. It must in the first place be made fit to be acted upon by the plow; it must be freed from surface stones, whether fast or otherwise; it must be drained to a depth sufficient to furnish a dry warm subsoil to the roots of cultivated plants; and if it has been exhausted, as nearly all long cultivated soils have been under the former vicious systems, it must receive a sufficient supply of manure, to render it fit for the production of crops. When thus fitted, and once well seeded, the basis of permanent improvement has been provided; as long experience has demonstrated that a proper course of crops with the grasses, instead of impoverishing the soil, tends constantly to add to its fertility. In this method, the plow does not constantly follow the plow on the arable lands, nor are the meadows, annually, and for long periods, submitted to the scythe; but the plow, meadow, and pasture, succeed each other at such intervals as experience shall deem most suitable for each.

In all parts of our country, there are more or less extensive tracts known as swamps, peat meadows, bog holes, &c. useless in themselves, and deforming the farms on which they exist. For unknown centuries these spots have been the reservoirs of animal and vegetable matter, and contain a large portion of the fertile materials that once existed in the soils around them. That such places would be productive in the highest degree, if it were possible to cultivate them, or that the valuable deposits they contain would be the means of giving fertility to large tracts of unproductive soil, if properly distributed, is too evident to admit of a doubt; yet these natural deposits of wealth have been almost wholly overlooked, and covered with flags, rushes, bogs, or water, they still remain to poison the air with their exhalations, or keep from the farmer the most fertilizing portions of the soil. That these places may be made the most valuable parts of a farm by the exertion of a little energy, and the expenditure of a reasonable degree of labor, there are, fortunately, owing to the progressive spirit of the age, abundant examples to prove.

Whatever may be the condition of these natural meadows, in other respects, the first thing to be done, is to thoroughly drain them. The best method of doing this must depend on circumstances. If a considerable quantity of water is to be carried off, open drains, of a size and depth equal to the ready removal of the water, must be made. In many cases too, the texture of the deposit is so loose, that no other drains can be of use; and even these, until the soil has acquired some solidity from settling together, will be liable to occasional obstruction, and will require to be cleared or deepened, as the banks fall in, or the loose soil obstructs them. Where the quantity of water to be removed is small, or the texture of the soil admits it, covered drains are always to be preferred, as furnishing less obstruction to agricultural operations, and occasioning no loss of surface by their presence. All that is necessary, is to allow the water to flow off quickly and freely, and to the necessary depth; without this is done, the labor expended in draining will be mostly lost.

When the ground is drained, the next step is to cover it with the cultivated grasses, or with other crops. If the soil is mostly vegetable matter, or peat, it is not fit for cropping unless a covering of common earth is applied. If considerable quantities of the earths exist in the deposit, it may be cropped with advantage as soon as drained. The surface of such places should be leveled; all bushes, bogs, &c. cut out, and then the surface covered with a coat of earth, such as sand or gravel, to the depth of three inches. With this, a quantity of manure should be incorporated, and then spring grain of some kind, with a liberal supply of grass seeds of the kinds desired, may be sown. Some prefer having the first crop roots, potatoes for instance, and where the soil contains sufficient earth to render the gravel covering unnecessary, this is probably the best course. Spring grains, and grass seeds, follow the roots. Winter is by far the best time to transport gravel upon such swamps; as a little calculation will show the number of loads required for a given area, and it may be spread at any time. It is not often that such grounds will admit at first the driving of teams upon them, until fully settled or graveled; the winter therefore, when the surface is frozen, is the best time for covering them. It is not denied that much labor and some expense must be incurred in reclaiming swamps, but when once done, their fertility appears inexhaustible, and it not unfrequently happens that the crop of a single year will repay the whole. There are many thousand acres of land in New England, which until within a few years had been deemed worthless, from which at the present time heavy crops of roots, grain, and grass, are now taken; and the amount thus reclaimed is rapidly increasing.

Farmers suffer a great loss from too close feeding of meadows or pastures, in the fall or spring of the year. Clover is almost destroyed in this way quite frequently, the crown of the plant being cropped by the half starved animals, until the power of vegetating is lost. This is a miserable treatment of meadows, and no good farmer who manages affairs as he should, will be habitually guilty of doing it. There are cases in which, where the soil would admit of rotation, it is inconvenient to plow up meadows, and it is necessary to keep them in grass. In these cases it is usually advisable to manure them with compost, and if this is well harrowed in with a supply of fresh seeds, meadows may be kept in good condition for any number of years. But unless extraordinary circumstances forbid, a course of cropping is altogether preferable to a long continuance in grass. The great difficulty in the rotative course of meadows, is found in the fact that farmers do but about half seed their lands, making the grasses coarse, and preventing the formation of close fine turf or bottom, so essential to good pasture or hay. Grass seeds, like the manures of too many farms, are frequently spread over so much surface, that the plants are hardly near enough for neighbors, while ample room is left for weeds to spring up and check, if they do not actually smother the young grass. It is idle to expect to convert poor exhausted land into meadow, until it has been supplied with manure. Grasses make land rich rapidly, and thus in a rotation prevent exhaustion; but there must be something furnished for the grass plants at first, or growth is impossible. When the farmer remembers that six sheep will eat a ton of hay in a winter, and that each cow, ox, or horse, requires from one and a half to two tons in the same time, and that it is to the meadow he must look for his supply, the importance of paying attention to this part of the farm will be obvious.

CULTURE OF HOPS.

"Messrs. Editors—Will you do me the favor to give me the process of planting, cultivating, and preparing hops for market? W. W. Leland."

Pontotoc, Mi., 1843.

A deep rich loam, rather heavy than light, with a porous subsoil, is the best soil for the hop. Air should have free access to the plantation, but if protected by woods on the north and north-west, the effect will be good. The neighborhood of swamps should be avoided, as they are apt to produce mildew. The soil must be fitted by deep and fine plowing, and repeated harrowing, so as to destroy all weeds, and make the soil as mellow and fine as possible. They must be planted in rows, six or eight feet apart, each way; at 8 feet, there will be 680 hills to the acre; at 6 feet, 1,210. Hops are planted in the spring, and by cuttings and sets from older plantations; each set should have two joints, or eyes; and are generally, some six inches in length. The ground is marked out into squares, at the proper distance; and where the furrows cross, a shovel full or two of compost manure is put in; on this, a quantity of earth is drawn to make a hill; and in this, five or six sets, at intervals of six inches, are placed. The hops produce nothing the first year, and a crop of potatoes, roots, or corn, is usually taken off. It should be a hoed crop, to keep the ground clean.

The hops require hoeing and hilling annually; and a dressing of manure is applied every three years. The vines, the first year, are not allowed to spread; but are twisted into a bundle on the hill, so as not to interfere with the other crop. The second year, in the spring, the hills are opened, the old vines cut away, the earth loosened, suckers cut away around the edges of the hills, and nothing allowed to remain that will injure the principal roots, or interfere with their throwing out strong shoots. The poles may be set in April; they should be some 12 feet in length, and stout enough to resist the wind. About 3 poles will be best for each hill, placed so as to give a full exposure to the south. They must be set firmly, with an iron bar, and the earth rammed closely around them. The vines, after they have grown to a proper length, must be secured to the poles by dried rushes, or strips of bass, two strong shoots to each pole, and all the rest must be cut away.

The value of the hop, depending on the quantity of *lupulin*, or yellow powder, it contains, should never be picked as it sometimes is, until that part is fully developed, or in other words, not until it is ripe. This is known by the yellowish hue of the hop, or by examining it, and it should then be gathered, with as little delay as possible. The hop should be gathered in dry weather, and when it is free from dew. For gathering, a frame is used, upon which a cloth is hung by tenter hooks, and around which the pickers, generally women, stand, while the hops are cut off at the root, and brought carefully to them by men. When full, the cloth with the hops, is removed to the drying house, where they are kiln dried, and bagged for market. The process of kiln drying should be completed as fast as the hops are gathered, to prevent their acquiring an unpleasant flavor from the moisture they contain. When dried, they are packed in bags, pressed in closely, and firmly sewed up, and are now ready for market. Every step in the process of drying, must be performed with neatness, and a regard to the saving of the peculiar principle to which the hop owes its value. The product of the hop is variable, and must be considered rather an uncertain crop. From 10 to 15 cwt. per acre, may be considered a medium crop; though, it has reached from 20 to 24 cwt. A plantation will last, well tended, from 12 to 15 years, when its renewal becomes necessary.

More full, and ample directions, for the culture of the hop, and the determining their quality, may be found in the previous volumes of the Cultivator; particularly, in the 2d, to which we must refer inquirers.

DOMESTICATION OF THE BUFFALO.

Our correspondent "J. B.," of Van Buren, N. Y., in a note, says: "Now, I wish to inquire, whether there has been any attempt made to domesticate the Buffalo; and, if there has not, why will not our State Ag. Society make the attempt? Surely, I think it worth trying. The Moose too, may be worth domesticating; and, while we are sending to England for Short Horns, Berkshires, and South Downs, would it not be well to try to use such as nature has put in our possession? I make this suggestion to you, in the hope that you will call the attention of your readers to this, as I consider it, important subject."

The herd of Buffalo, or Bison, to which our correspondent alludes, as exhibited at the State Fair, were intended for England; rather as objects of curiosity than utility. According to Catesby, Pennant and Richardson, attempts have been made to domesticate them, but without much success. Pennant says, that "calves have been caught, and brought up with common cattle, but though they seemed for a time, to have lost their savage nature, and would breed with the common cattle, they were always impatient of restraint, unruly, and leading the tame animals into mischief." It appears scarcely possible, that any good qualities could be gained by our domestic cattle, from crossing with the Bison, unless their wool, or fur, could be retained, which is not probable. We do not know whether any attempts have been made to domesticate the Moose, but the thing is doubtless possible. It should be remembered, however, that little can be gained by domesticating animals that do not add to our existing stock of food and clothing. Whether the Bison or the Moose belong to this class, our readers must determine.

BONE MANURE.

"Messrs. Editors—I would be very much obliged, if you, or some of your correspondents would inform me of the best method of applying bone manure, and the quantity to be used per acre. I have used a considerable quantity of it, and should be pleased to give in return, the result of my experiments. R. T. B."

Sandy Spring, Md., 1843.

Bone manure, may be applied broad cast, as gypsum is sown: or, placed in drills with the seeds, and this is, doubtless, the best way of using it. In this way, its influence is felt at once in the germination and quick growth of the plants, a thing of much consequence with the turnep, and other plants, liable to be destroyed when young, by insects. In England, it is always, or generally, sown in drills with turneps; and in quantities varying from ten to thirty bushels of dust per acre. It has been recommended to ferment the bone dust before sowing; and Mr. Colman, in his Report, says: "the most successful application of bone manure which I have known was where they were mixed at the rate of about one part to eight, with leached ashes, or mold, and a fermentation brought on, before they were applied. They were then spread lightly in the furrow, where carrots were sown. The effects were most favorable, and surpassed a free dressing of barn manure, to the same kind of crop." Mr. C. does not name the quantity used per acre.

We shall be happy to receive an account of Mr B.'s experiments.

DANA'S MUCK MANUAL—SWAMP MUCK.

Our correspondent, "K. G." of Voluntown, Ct., who inquires respecting the subjects here named, is informed, that Dr. Dana's Manual, is to be found at any of the principal bookstores in our cities, and that the price of the last and best edition is 62½ cents. As to our opinion respecting the work, we repeat what we have before said; that it is the best treatise on manure yet published. "K. G." says he has abundance of swamp muck on his farm. If he has, he has the means of rendering what is now 'poor and unproductive,' rich and fertile. His deposits of swamp muck are a mine of wealth; and let him carry out the practice recommended in the Manual, by mixing muck and manure, in the proportion of one-third of the latter to two-thirds of the former; or, by composting and fermenting in any other way, and he will find the utility of the method at once. Pond mud, formed by running streams, is different from swamp muck; as it does not require fermentation, or composting, but may be applied at once to the soil. Perhaps one of the best methods of using muck, is to cover the yards in the fall of the year with it, to the depth of a foot.

This will absorb the urine of the animals, and subjected to the trampling of their feet, will, in the spring be fit for use, and a most valuable manure.

FROST AS A PULVERIZER.

EVERY farmer is aware that fineness of the soil, is an indispensable condition to great productiveness. In a fine soil, the minute pores and rootlets are brought in immediate contact with the earth at many points, and are thus enabled to receive much greater supplies of nutriment than they could obtain in a coarser soil. Soils, the particles of which are fine, are also better conductors of heat or of moisture than others, and hence more fit for the general purposes of culture. Where sand predominates in soils, friability and consequent fineness prevail; but there are those in which clay exists to such an extent as to render them, especially if worked when wet, so hard and compact as to render them wholly unsuitable for crops. Such soils, though productive when worked in a proper state, are in a condition for working a much less space of time, during the year, than drier ones; consequently the best method of working such, or rather extending the time of working them, becomes an object of much moment to the farmer located on compact or clay soils.

Undoubtedly the most effectual remedy for soils apt to consolidate by working, is draining; the evil in nearly every case being fairly traceable to an excess of moisture. This is retained by the superabundant clay, and working converts this to a mortar, which, whether wet or dry, is utterly unfit for the production of crops. Draining reduces this excess of water, and leaves only such as belongs to the attractive power of the soil. In this state, mortar cannot be formed, and the soil must remain at all times friable. But many of our farmers find themselves unable to encounter the expenses of draining, at least to any considerable extent, and hence the necessity of adopting the best remaining way of cultivating soils, apt to form in masses by working.

Next to draining, the most efficient agent in the management of such soils, is frost. This is a most effectual pulverizer, and the farmer may compel it to perform a vast deal of useful labor for him. It is particularly useful where spring crops are to be grown, aiding the pulverizing action of the plow and harrow to an incalculable extent. To avail ourselves of the action of frost as a pulverizer, it is necessary that lands should be plowed in the fall, the later the better, as in the latter case the soil feels the influence of the rains less, and that of frosts more, than when plowed early. If, for the crops intended to be cultivated, manures are to be used, these should be placed on the ground before plowing, and then the surface turned neatly and cleanly over. This course is advisable, where long or fresh manures are to be used, although the deep plowing we would recommend where frost is to act, is entirely unfavorable to the immediate action of the manures on the young plants. On the contrary, where rotted manures, or compost, is to be used, it may be applied to the surface in the spring, and harrowed in with the seeds. The manner in which frost acts to render soils fine, is easily understood; it is owing simply to the expansion of the water when freezing. In soils which have an excess of water, it fills all the interstices, to the exclusion of air; whereas in soils that are permeable, or have only a proper supply of moisture, air exists in every part. No matter how closely soils may be compacted by the plow, or how wet they may be at the time of working; if the water they contain freezes, the particles of earth are all separated, and the frost leaves the mass loose and friable. Land plowed in the fall or winter, intended to receive the benefit of the action of frost, should be worked as little in the spring as is possible, consistent with the good getting in of the crop; unless in the very driest condition, all trampling or working such soils in the spring, is undoing all that the frost has done, and rendering them dense and impervious for the season. It is obvious, that soils to receive the full benefit of frost in fitting them for spring crops, should be as free from weeds, such as Canada thistle, &c. as possible, as otherwise they will get and retain the start of the sown crop. On soils infested with weeds, a second or spring plowing may be necessary, and unless as before remarked, the surface is very dry a compactness will be given, from which the soil will not recover until after the action of the frosts of another winter, and which will be fatal to the cultivated crop. Unless, therefore, the necessity is an urgent one, second plowings should not follow on lands submitted to the action of frost, and where the necessity exists, only when the soils are in the driest possible condition.

MR. COLMAN'S EUROPEAN AG. TOUR.

WE are glad to see that Mr. Colman's proposed Tour and Survey of European Agriculture, is every where hailed with great pleasure. We find the following notice of it in the Delaware Republican:—"For the information and benefit of our many farmer friends and subscribers, we give in another column to-day, Mr. Colman's prospectus of his proposed European Tour and Survey; already there are many subscribers to this valuable work in this county, and the merits of the undertaking and the talents and qualifications of the author, are alone necessary to be made known to the agriculturists of Delaware, to ensure several hundred subscribers to this work. He will be in fact, the first farmer ambassador and minister plenipotentiary to any European court, sent immediately from the ranks of the people, and we predict the happiest results from his mission. In the first place, we shall have a most graphic portrait and history of foreign agriculture—their live stock, improvements, and rural buildings, and implements—then, we prophecy a correspondent good feeling reciprocated by his labors upon the agricultural products of the United States, and mark the prediction, before his tour is completed, the corn meal, the beef, the pork, the lard, the butter and cheese of this country, will be shipped to the English markets in place of the specie of our banks."

"THE SCHOOL AND THE SCHOOL MASTER."

EDUCATION for the people, the instruction and elevation of the masses, the diffusion of useful knowledge in every direction, is justly receiving a large share of attention at the present time, and we are happy to say, nowhere are these important objects more closely and liberally pursued, than in our own state of New-York. Democratic institutions, or institutions based on the will of the people; and all ours, both civil and religious, are of this class, can only be perpetuated, or safely managed, except when those who wield the power are intelligent and virtuous. This important truth, which lies at the base of our social superstructure, has not been without its influence on those who have in years past had the management of our educational policy, and is claiming a large share of the labors and attention of our wisest statesmen and far seeing patriots of the present time.

We have no intention here of entering into a discussion of what is to be understood by the term education, or what amount of knowledge is necessary to make an educated man; it is enough to know that a man may be very learned, and yet be far from being an educated man; and that a man may be thoroughly educated for all purposes of utility, and yet have very little acquaintance with what is by many considered the essential part of learning. That man is an educated man, whose mind has been so trained, that whatever may be the subject presented, he is ready to seize it as it offers itself, overcome the difficulties that present themselves, and mold it into circumstances of practical utility. Mere learning never does this; the training, the education, the accustoming one's self to think, reason, and act, is wanting. While, therefore, we look with no disfavor on the higher branches of learning, we do not consider them as necessarily, or even remotely, included in the term education; particularly, the kind required by the great mass; the thinkers and actors of the American people. Learned men we are not anxious to have our farmers become; educated men they must be, or fail to realize the high destiny which should be the aim of every American citizen.

The measures taken by this state in favor of the education of the people, have certainly been of an enlightened and liberal class, and if all has not been effected that the friends of education could wish, the progress on the whole has been very satisfactory. The organization of the common schools, and their endowment with the academies of the state, by the formation of the literature fund; the addition of the money derived from the United States distribution fund; the important movement of furnishing libraries to each school district; and the appointment of deputy superintendents, whose time is to be occupied in arranging, overseeing, and rendering more harmonious and effective the diversified system of teaching, hitherto acted upon in the several counties; all show that the state has kept its watchful care on this great interest, and devoted its means to the service of education, in no stinted or limited measure.

Individual effort, too, has not been wanting to carry forward more effectively, the cause of general education; one of the most honorable and useful, as we believe, of which has resulted in the preparation, publication, and distribution of the volume named at the head of this article. Many of our readers will remember, that a number of years since JAMES WADSWORTH, Esq., of Geneseo in this state, offered a premium for the best work on education. Circumstances prevented the offer taking effect in the manner proposed, yet it is probable to that offer we owe our system of School District Libraries; and to it we are now indebted for the publication named above, and intended for all those concerned in the management of, or interested in the progress of schools. The volume is a joint production from two distinguished teachers and scholars, men thoroughly acquainted with the matters of which they treat. The first part entitled "The School," is from the pen of Prof. Potter, of Union College; the second part "The Schoolmaster," is from the pen of G. B. Emerson, A. M., well known for his ably directed efforts in the cause of popular education.

By the liberality of Mr. Wadsworth, a copy is to be placed in each school district in the state; and also in the hands of the Governors of the several states, and the superintendents of common schools in the several counties of the state. The expense to Mr. Wadsworth will exceed $8,000. Issued as the volume is, with the approbation of the State Superintendent of schools, and valuable as it is for its suggestions, its general circulation can scarcely fail to give a decided impulse to school instruction. To every such effort we bid God speed. Let the state, let individuals continue their labors to educate and elevate the masses. The expense of giving education to all, will be less than will be required to counteract and punish the vices consequent on ignorance, and it is in this form that the question of education presents itself to the reflecting mind.

About 25,000 persons have taken the benefit of the bankrupt law.

OBITUARY.—We regret to learn from the Western State Journal of Syracuse, that that firm friend and enlightened advocate of agriculture, SILAS GAYLORD of Skaneateles, is no more. His death took place very suddenly, on the 30th of January, after an illness of only a few hours. He was at the village of Skaneateles on business, in the morning, and returned home slightly unwell. At 2 o'clock a physician was sent for, and at half past five he was a corpse.

The sudden demise of Mr. Gaylord will be severely felt by the friends of an improved agriculture, and associated efforts for its promotion, in the county of Onondaga. For several years previous to the organization of the present county society, through the efforts of Mr. Gaylord and a few other congenial spirits in Skaneateles, a town society had been in operation, the meetings of which were well attended, and evidently produced an excellent effect in exciting inquiry and extending information among the farmers of that fertile and most beautiful section of the county and state. Few if any individuals in the county, have done as much as Mr. Gaylord to call the attention to improved breeds of animals, or made more liberal expenditures in introducing them for the benefit of the public.

Mr. Gaylord was a member of the society of Friends; and his beautiful situation on the western margin of the Skaneateles lake was marked by that neatness, good order, and thrift, so characteristic of that most valuable class of our citizens. His farming processes were well conducted; his barns, implements, and modes of feeding, all of the most approved kinds; and every part of his farm bore the marks of industry, directed by intelligence. A warm hearted friend, a kind neighbor, and a good citizen, as such he will be missed and lamented; but the farmers of the county will most regret his absence from their social gatherings, his sound advice, and the active intelligence he brought to the agricultural societies of which he was an efficient member. Peace to his memory.

THE OTHER PICTURE.—Our correspondent, "J. M. E." of N. Carolina, who from being a merchant in the city, to gratify his taste for rural pursuits, turned farmer, gives us rather a doleful account of his first year's experience. We can only give the substance of his statement. He says:—"I bought a Durham cow at a high price, which soon died. I had a 'fine mare,' and she ran away. I planted in the spring, 28 bushels of Irish potatoes, and dug only 150—from 10 bushels of sweet potatoes planted, dug only 50. I sowed 5 bushels grass seed, and never got a seed back again, nor hardly saw a stalk. I sowed some spring rye, and had it not been for a row of cherry trees, should never have known where it was. I bought a fine horse for $115, and sold him this winter for $50. I put up four razor-backed pigs, fed them four months, and then they weighed about a pound less than when first put into the pen. I bought 40 ducks and only one of them ever laid an egg, not even on a 'Sunday.' The hawks caught all my chickens; the hogs eat all my goslins, and we finished the last gobler on New Year's day. Out of 35 hogs I lost 17, and also two of my four cows." Here is a catalogue of mishaps long enough to dampen the ardor of even the most determined; but they do not thus affect our friend. He says:—"But 'none of these thing move me' to despair. I have now, 1843, commenced a new year in as good humor as ever before, marked 'this side up with care,' and with a resolution of total abstinence from the use and traffic of all negroes and liquor." With the energy which this spirit indicates, we doubt not J. M. E. will be able to give a better account of his second year's operations.

FATTENING CATTLE ON LINSEED OIL.—Col. John Prince of Jamaica, Mass., states in the N. E. Farmer, that having read in Monk's Ag. Dictionary, that five galls. of linseed oil (raw,) will fat a beast sooner than £5 sterling in any other way, he determined to try the experiment on a large sized cow. He says:—"I dried her up at pasture, and early in autumn determined she should be fatted on *oil*. I ordered one pint to be well mixed in half a bushel wheat bran, to be for one day's food, with such hay as she would eat. She refused absolutely to eat of it, until the *third day*, after which she came to and became fond of it, and in one week we could perceive she was gaining finely. After using five gallons, I purchased two more. I then, for a fortnight, gave Indian meal in lieu of the oil. I then offered her for sale to the butchers in my vicinity: they all examined and declared her uncommonly well fatted, but as she had been fatted on *oil*, they were afraid the meat would not be good. Finally, one young man gave me $9 per 100 lbs; (she weighed 798 lbs.) I never saw finer looking meat, and the purchaser several times afterwards, told me his customers often spoke of the superiority of that beef, not knowing it had been oil fed. One or two years after that, I fatted a yoke of oxen. One I fed on oil, the other on meal and vegetables. They were very fat, and I fully thought the oil fed one did not cost half as much to fatten, as the one on meal and vegetables. I have not fatted any beef animal since, or I should have adopted the oil plan."

"HANDLING."—Good judges say they can tell the quality of an animal as well by feeling as seeing. Col. Jacques, of Charlestown, at a recent agricultural meeting in Boston, said:—"The *handling* of the animal is of very great importance: a soft, silky, elastic skin is desirable. Take an ox with a hard, wiry touch, and raw boned, and there is no use in trying to *beef him*; you might as well stick down two stakes, throw a buffalo hide over them, and put your roots and grain down before that."

GEOLOGICAL SURVEY OF NEW-YORK.—PART III.

[Conclusion of Notice of Prof. Vanuxem's Report.]

THE readers of the Cultivator may remember, that in September, 1841, we called attention to the fact of the discovery of Rock salt in Virginia, and from the character of the rocks in the vicinity of the deposit, as compared with those at the Onondaga Salines, suggested the probability of their being the same, and that consequently the presence of rock salt at the latter place might be fairly inferred. The geologist of Virginia, Prof. W. B. Rogers, however, informs Prof. Vanuxem, that the Virginia deposit belongs to an age different from either the New-York or the Cheshire (England,) deposits, being above the former, and below the coal, consequently, in what is termed in the N. Y. System of rocks, the Old Red Sandstone, or Catskill group. This is an interesting fact, as adding another to the group of rocks in which fossil salt has been found. We may remark, however, that whatever may be the age or position of the salt deposits, the general character of the rocks enclosing them are every where much the same, and agreeing so exactly with those at Onondaga, as to afford little or no room for doubt, that the N. Y. Salines have their source in beds of fossil salt. The dip of the rocks of the salt and other groups in Onondaga, one of the most important elements to be taken into account in all borings for salt, seems to have been too much overlooked in all the experiments heretofore made.

The agricultural character of the soils on the Onondaga Salt group, and in the counties of Onondaga and Cayuga they are of considerable extent, is in general of an excellent quality, particularly on their southern margin, some of the finest farms in the state being found in this group.

WATER LIME GROUP. *(Hydraulic limerock of Eaton.)*—This group of rocks takes its name from the impure drab colored limestone from which all the water lime in the district south of the Erie canal, with a single exception, is prepared. The rock is well defined both in this state and Pennsylvania, by its mineral character, and by its fossils. The thickness of the group is from 30 feet to 100. Of this thickness, but a small part is occupied by the water lime proper, the rest being a dark blue limestone. It is easily traced across the state from east to west, by its peculiar qualities, and peculiar fossils. Its influence on the agricultural character of the district is not great, as the thickness or spread of its outcrop is limited.

PENTAMERUS LIMESTONE.—This rock takes its name from the Pentamerus galeatus, a shell well figured in the Report, and which in the 3d district, is confined exclusively to this rock. There are some others which may also be considered as characteristic of this mass. This rock enters the district from the first with a considerable thickness, but gradually thins out, and has not been traced to the west of Oneida creek. Its thickness in Otsego co. is about 80 feet.

CATSKILL SHALY LIMESTONE. *(Delthyris or Scutella limestone of the Reports.)*—In the first district this mass is a thick rock, and is named from the Catskill creek, where it is well developed. In the third district the mass is not so thick, the shale diminishes in amount, and disappears in Herkimer county; but the limestone part continues into Madison co., west of which it has no existence. This rock is remarkably prolific in fossils, species, genera, individuals, &c. many of which are characteristic of it. A large number of these are well figured in the Report.

ORISKANY SANDSTONE.—This rock forms a part of the Helderberg division, and can be distinctly traced from this mountain into and across the 3d district. In the first district its associates are different from those at the west; there it resting on the Catskill shaly limestone, and being covered by the canda-galla grit, while at the west it rests on the water lime group, and is covered by the Onondaga limestone. Some of the most striking fossils in the whole series are found in this rock, some eight or ten of which are figured in the Report. The fossils in this rock are usually of a large size, and frequently crowded in the lower part of the rock. This mass is well characterized, and as the quartz materials of which it is composed are of an indestructible kind, it exercises considerable influence on the agricultural character of the soils near its outcrop. This rock, in Pennsylvania, has a maximum thickness of 700 feet, while in this state, it ranges from a few inches to about thirty feet.

CANDA GALLA GRIT.—This is a peculiar rock, receiving its name from the fossil appearances resembling cock tail feathers, abounding in it. It is found in a thick mass at the east part of the district, but thins out and disappears towards the east line of Oneida. The origin of these impressions does not appear to have been satisfactorily ascertained. Some have supposed them to be inorganic, or a kind of crystalization; but we have no doubt they are organic, and belong to those fucoidal remains of which so many, under other forms, are found in rocks higher in the series.

SCHOHARIE GRIT.—This rock is a fine grained sandstone, and only exists in the eastern part of the 3d district; while it is found in its place in Indiana, readily detected by its characteristic fossils.

ONONDAGA LIMESTONE. *(Sparry limerock of Eaton.)*—This rock, though not of great thickness, is a well characterized and important one, extending from the Helderbergs to Lake Erie. It abounds in smooth encrinal stems, some of them an inch in diameter, and giving a beautiful appearance to the rock when polished. This rock has several fossils characteristic of it, among which the *Pentamerus oblongata*, is one of the most common. The greatest exposition of this mass is at Split Rock, S. W. of Syracuse, where it is uncovered and quarried for nearly a mile in extent. It is one of the best building stones in the state, a large portion of the new structures on the enlarged Erie canal, being made of it. Blocks of it, of almost any desirable size, can be obtained.

CARNIFEROUS LIMESTONE.—This rock, including the Seneca limestone of the Reports, is the upper member of the Helderberg division, and retains the name given it by Prof. Eaton. There are many fossils peculiar to this rock, but the most characteristic is the *Odontocephalus selenurus*, figured in the Report as No. 1. The next most marked is the Cyrtoceras trivolvis of Mr. Conrad. It is seen in its greatest thickness of about 80 feet, near Cherry Valley, and in the eastern counties is extensively quarried. It is well exposed on Onondaga West Hill; at Marcellus, and at Auburn. In Onondaga, no quarries are opened in it, the other limestones being preferred. Fish bones, (Ichthy odoralites,) have been found in it, one of which is in the cabinet of David Thomas of Scipio. The Seneca limestones are quarried a few rods to the S. E. of Marcellus village, furnishing an excellent dark colored building stone.

MARCELLUS SHALES. *Pyritiferous or 3d Greywacke of Eaton.*—These shales extend east and west through the district, commencing near the Hudson, and ending on Lake Erie. The lower parts of these shales are very dark, or nearly black, and in several places have been bored for coal. In the lower part of the mass fossils are not abundant, but become numerous higher in the rock. In its mineral character it much resembles the Utica slate, but the fossils are very different. Of the fossils peculiar to this rock, we have figures of the *Expandra*, and the *Marcellus goniatite*. Coal, in small quantities, is found in many places in the lower part of these shales. Their structure is well exhibited near Marcellus, where their greatest thickness is observed. They very essentially modify the character of the soils produced, although the vast masses of transported material cast upon them from the north prevent their full effect.

HAMILTON GROUP. *(Moscow shales, Ludlowville shales, &c. of the Reports.)*—The Hamilton group includes all the masses between the upper shales of Marcellus, and the Tully limestone. It is of great thickness, probably never less than 300 feet, and swelling to 700 feet. It abounds in fossils, and is admirably characterized by them; many species, and even genera, commencing with this group and ending with it. Its shells, corals, orthoceras, trilobites, fucoids, are innumerable. This group is well developed, covering no inconsiderable part of Otsego, Madison, Onondaga, Cayuga, Herkimer, Oneida, Cortland, Chenango, and Tompkins, the least part, however, in the five last counties. A large portion of the beautiful vallies, and the beds of the lakes, that form so remarkable a feature of the 3d and 4th districts of New-York, are formed in this rock, and in the Marcellus shales below. The depth of water in the lakes is from 100 feet to 500 feet, and the height of the ranges between them from 300 feet to 800 feet. The distance between these nearly parallel vallies, varies from 3 miles to 10 miles. In the Hamilton group, near South Onondaga, are extensive masses of *Cynthophyllum*, and the spreading forms of the canda-galla fossils, re-appear in multitudes in this rock. We have seen on the highlands to the east of the Otisco lake considerable spaces of this rock polished and grooved, thus proving that the polishing and grooving agent, whatever it was, acted over a very extensive region of country, and in the 3d district at very different elevations.

TULLY LIMESTONE.—This limestone mass is of importance, being the most southern or highest mass of limestone in the state; is an impure stone, fine grained, brown or blackish blue, breaking into irregular fragments. The thickness of the mass is from 16 to 20 feet, and extends east and west from Madison co. into Seneca co. There are some beautiful fossils peculiar to this rock, a few of which are well figured in the Report. One of these is the *Cuboidal atrypa*, and the other the *Tully orthis*. It receives its name from the village of Tully, in Onondaga co., where it is quarried to a considerable extent for lime, &c. It makes a good, but not a white lime. The most northern point where this limestone has been observed, is on the high grounds called Ross' Hill, in Otisco, where a large surface is exposed. Its vertical joints cause it to retain no water, and the soils upon it, as on other limestone rocks of the district, where no beds of clay intervene, are warm and productive. The Tully limestone shows itself in many places along its northern outcrop, between its eastern and western extremities, exhibiting in all, its well marked mineral and fossil characters. Large masses of this limestone have been transported far to the south of their original position, particularly near the head of the Cayuga lake.

GENESEE SLATE. *(Upper Black Slate of the Reports.)*—This mass lies upon the Tully limestone, is argillaceous, black or dark colored, uniform in its structure, and with very few fossils. Near the Cayuga lake, it attains a thickness of 100 feet. The greatest exposition of this slate is near Ludlowville, on the Cayuga lake, but it is extensively shown in the southern towns of Onondaga, and the northern ones of Cortland. When exposed to the air it usually decomposes rapidly.

THE ITHACA AND CHEMUNG GROUPS.—The Genesee slate which has all the appearances of a mere mud deposit, is the last of the Helderberg division, and introduces the upper part or Erie division of the N. Y. System. This is divided into the Ithaca and Chemung groups, which extend from the Genesee slate to the coal. These groups are a series of layers of sandstone and shale, usually coarse; some of these layers are of great thickness, and some of them abound in fossils, while others are nearly destitute. They are nearly destitute of lime, and we are inclined to think this fact has no little influence on the agricultural character of the soil, and the nature of its products. Certain it is, we find on the soil of these groups trees and plants, unknown to the rock groups lower in the series, or north of these Ithaca and Chemung groups.

THE CATSKILL GROUP, is the Old Red Sandstone of English Geologists; its character being determined by its fossils, which are well marked, and the peculiar character of some of its rocks. This rock is found only near the south line of the state, and capping the principal existing elevations. The figured fossils of this group show that we are approaching the region of coal, some of them being fragments of those abounding in the coal, and indicative of the same era.

We find in the Report, chapters on the uplifts in the valley of the Mohawk; on the alluvial deposits of clay, sand, boulders, boulders of primary rock, of the transition class, of lake marl, tufa, soil, &c.; on the excavations, or denudations of the district, lakes, mounds, &c. &c., and on various other topics connected with the Geological structure and formations of the state. Of the general correctness of Mr. Vanuxem's positions and remarks, we are happy to add our full conviction, having had an opportunity for an examination more or less perfect, of most of the groups described by him. With this volume, and its characteristic engraved fossils before him, the geological student will find much of the obscurity that has hitherto rested on this portion of the New-York rocks, dispelled, and his way to their investigation comparatively easy.

But though happy in being able thus to award our tribute of praise to the able manner in which Dr. BECK, and Prof. VANUXEM, have performed their duties, as published in the volumes before us, we must say that as farmers, we feel that some things, of what we deem of practical importance, have been overlooked by them; things too which it is believed the agriculturists of the state generally, and certainly those who were the most efficient and active friends of the survey, understood at the time should not be neglected. We allude here, more particularly to the *analysis of the various soils of the state*, which it has been deemed desirable should be fully and satisfactorily performed, and for which service it is well known the gentlemen selected for the survey, were amply competent. On this subject, Prof. V., in the Report before us, speaking of soils, page 231, remarks: "In this part of the survey, if any thing was expected beyond the collecting of soils for analysis, there must be disappointment."******* "The letter of the survey could readily have been complied with, and the soils collected and analyzed; but judging from the attempts elsewhere made, it is not probable that any very satisfactory results would have been obtained." The closing paragraph of Dr. Beck, on soils, page 93, is as follows: "It is hardly necessary to remark, that soils are seldom characterized in so marked a manner as the above classification [that of Prof. Low, in his Practical Agriculture,] would seem to imply. They are mixed in various proportions, and in some cases it is not easy to determine to which of the classes they belong. Moreover, the nature of these soils is constantly undergoing changes, in consequence of the various modes of culture to which they are subjected. This renders it exceedingly difficult to present analyses of soils which shall be of practical utility."

We regret very much to find this matter of analysis so passed over. Men of science abroad, and practical farmers every where, have considered a thorough knowledge of the constituents of the soils they cultivate, of the first importance, and to be better obtained by analysis than in any other way. Is there a farmer in the vicinity of Albany, who would not be pleased and instructed in learning the difference between the rich soil of Judge Buel's farm now, and as it was when he took possession? Is there one who would not be gratified in learning the effect of the clays he applied in changing the character of his sands, and whether they are still present to modify and render effective the manures applied? And this is only one instance of thousands which might be named. It is true, culture changes the character of soils, and it is these very changes, and the manner of effecting them, which analysis points out. No man can traverse the state without being struck with the marked difference of soils within short distances, or the effect these differences have on the cultivated crops. Skilfully conducted and numerous analyses, would show the cause of these discrepancies, and point out the mode of remedying the evils.

We do not pretend to attach blame to any one; or state upon whom this duty of analysis should devolve. Its omission we much regret; and the disappointment we feel, we think will be common. And one reason of our mentioning it here, is in the hope that it is not yet too late to have a full and extensive analysis of soils from every part of the state, and strata or group of rocks, performed, and the results incorporated in the further progress of this great state work.

EMIGRATION TO VIRGINIA.—It is stated in the papers, that the Hon. A. L. Foster, M. C., from Madison, in this state, has purchased 1000 acres of land in Virginia, at $3.50 per acre, and that Mr. Townsend of Buffalo, now Sergeant-at-arms, at Washington, has also purchased a farm in Virginia, and that both intend to settle there.

LARGE YIELD OF COTTON.—The Mecklenburg (N. C.) Jeffersonian says:—Col. John M. Potts, residing in the Steele Creek settlement of this county, raised the past season, 2,263 pounds of Cotton, from one acre and four rods of ground."

Dr. PLAYFAIR'S SECOND LECTURE.

GRAZING AND FATTENING CATTLE.

[In our last number we gave the first Lecture of Dr. Playfair, before the Royal Ag. Society of England, on the application of the principles of Physiology to the Grazing and Fattening of Cattle. We now give his second and last Lecture on the same subject, which was delivered on the 8th Dec. last. We are indebted to the London Gardener's Chronicle, for the reports of these Lectures.]

Dr. PLAYFAIR, in commencing his second lecture, stated that in the last lecture he had examined the nature of the food of animals; in this evening s lecture, the process of growth and fattening in animals, would be more particularly considered. The health of an animal depends on the supply of nutriment being equal to the waste that is going on in the body. Healthy adult animals weigh as much at the end as at the beginning of the year, and this depended on their having had enough food to supply the waste going on in the system. In young and growing animals it is somewhat different; they require more supply than there is waste, because their bodies are constantly increasing in size. When animals are first born, the functions of organic life are chiefly performed. Respiration is at this time more active than in the adult. Nutrition is also more active. The food that nature supplies animals with at this period of their life, is well adapted to assist those functions. In the milk of animals is found nitrogenised matter for developing the system, and carbonised matter for supplying animal heat. The following is an analysis of the milk of a woman, a cow, and an ass, made by Dr. Flayfair:

	Woman.	Cow.	Ass
Casein,	1·5	4·0	1·9
Butter,	4·4	4·6	1·3
Sugar,	5·7	3·8	6·3
Ashes,	0·5	0·6	—
Water,	88·0	89·0	90·6

The casein is the nitrogenised principle which affords nutriment to the muscular and other tissues. This is in greatest quantity in the cow. The butter and sugar are the combustible materials which by their combustion supply heat to the body. The ashes consist of phosphate of lime and common salt, both of which materials are necessary for the healthy function of the body. Thus, in milk we have all that is necessary for the growth of the body, and it is the type and representative of all food; for unless food contain the principles of milk, it is not fitted for the purposes of the body. Casein is the principle of cheese. In its ordinary state, as made for the food of man, cheese contains both casein and butter. The stomachs of young animals are not adapted for separating the nitrogenous principles from food, and the casein of milk is supplied to them ready separated. In the young ruminant, as the calf, the three first stomachs into which the food of the adult animals enter before it is digested, are not used at all. The milk passes at once into the fourth stomach. Hence the necessity of weaning these animals gradually, in order that their stomachs may be fully able to prepare the raw food for digestion. All food for weaning children, also, should be prepared on the model of milk, changing the relations of the nitrogenised to the carbonaceous materials only as circumstances require. In the milk of the cow, the carbonised materials are as two to one, but in the food of adult animals they are as six to one. The large quantity of casein in milk is required for the rapid development of the body; the butter, a highly carbonised material, is required for supporting a large amount of animal heat. It is, consequently, a bad thing to feed calves on skim milk, as the butter and casein have been removed, in the shape of cream. Earl Spencer, who is very successful in weaning his calves, feeds them first with new milk, then with skim milk and meal, the meal supplying the necessary azotised and unazotised materials, (azote and azotised are synonymous terms with nitrogen and nitrogenised.) In feeding young animals, as well as young children, they should have good food, and there should be no stinting them as to quantity. That farmer will lose in the end, who thinks to save his milk by stinting his calves. Artificial food is sometimes made, and used as a substitute for milk. The Duke of Northumberland employs a mixture of treacle and oil cake, bruised flax, and hay. The fruit of Leguminosæ contains casein; hence we may infer that peas and beans would be good food for calves. The difference between casein and albumen is, that the former is much more soluble than the latter, and probably on that account more adapted for young animals. Beans and peas are known to be good things for growing pigs, whilst barley meal is good for fattening them. In the growth of young animals, as well as the fattening of adult ones, all exposure to cold, should be as much as possible avoided. Cold diminishes the vitality of the body, and whatever diminishes vitality, gives a preponderance to chemical action in the body, and injury of some kind is the result. Exercise is also necessary for the rearing of young animals, although it should be avoided in fattening. In order to develope the calf and the lamb, they should be allowed plenty of exercise; but in fattening another object is to be gained. All motion consumes something in the body, therefore motion is so much loss of material in the fattening an animal. In the same manner, exposure to cold, as was proved by the experiments repeated in the last lecture, was a positive loss in the fattening of animals. Stall feeding is beneficial, both on account of warmth and quietude. The primary cause of all this waste is the supply of oxygen; whatever increases the supply of oxygen, increases the waste of the body, and the necessity for supply. Fatting animals are often kept in the dark. Darkness favors sleep, and sleep quietude. It was thus that darkness was favorable to fattening. A case was related of a pig that was placed in a box in the dark, and the sides stuck full of pins, to prevent the animal moving in any manner, and the animal quickly got fat. The fattening of ortolans, in Italy, illustrated this point. The ortolan is a bird that takes its food at dawn of day, and the breeders of these birds take advantage of this,and shutting them up in a dark room, they contrive to let in the light four or five times a day, and to supply the birds with plenty of food. The birds, at every admission of light, thinking the time is come to eat, take their usual quantity of food, and on the light being withdrawn, they fall asleep, and in this manner they rapidly get very fat. Sleepy, good natured pigs fatten fast; but active pigs, as the Irish, never get fat all. A question may still arise as to whether it is better to feed animals in stables or small yards. The manure of the latter is stated to be better, and there is no doubt of this, but then the gain of the manure is lost in the fattening of the animal. Manures will also vary in value, according to the food animals take. The manure furnished from cattle eating turneps, was nothing like the value of the manure furnished by cattle eating linseed cake. Feeding cows for the dairy, was a subject worthy great attention. In the first place, it seemed necessary to supply cows with food containing potassa. Potassa converted albumen into casein—that is, it made it soluble—and soluble albumen is casein, and casein is the most important constituent of milk. It might be a question as to whether casein was introduced directly into the blood from the food, or whether it might not be the result of the destruction of the already formed tissues. Animals fed in the open air, gave milk with more casein than animals fed in close places. The lecturer found more casein in the milk given in the evening after the cows were out all day, than in milk given in the morning after the cows had been standing all night. The tissues are consumed by exercise, and thus yield the casein. Parturition makes a great demand on the powers of the system, and Braconnot found that the milk of a cow directly after calving, contained 15 per cent of casein, a much larger proportion than ordinary. The alkalies, set free by motion, convert the albumen into casein. The butter in milk is not introduced, as Dumas asserts, with the food. It is formed from the starch that exists in the food. The only change necessary to convert starch into fat, is the abstraction of oxygen. The sugar of milk is a peculiar compound; it consists of starch, with two proportions of water. The state of the mind affects the secretion of milk. In woman, anger, sorrow, and anxiety, affect their milk so much, that children suffer very much, or even die, from the effects of partaking of it. For the same reasons, cows should be kept free from all kinds of irritation. When at a distance, they should be allowed to walk to the milking place at their own pace, and never be driven. Exercise is bad for the butter. Where much exercise is allowed, the produce of butter is small; this arises from the oxygen consuming the carbonaceous material that would otherwise be secreted in the milk in the form of butter. In summer, flies torment cows in the day, and they do not yield so much butter. This may be remedied by sending the cows into the field at night, and keeping them at home in the day; but this must only be done in summer, as it would be a bad system during cold nights. Stall fed cows produce most butter; and where butter is the object, cows should be turned into the richest pastures. With regard to the pastures for producing casein, or cheese, there is a very general impression that poor land is best adapted for producing cheese. In general, in cheese districts the pastures are poor. It is, perhaps, the exercise which the animals take on poor land, in order to obtain food, that (for reasons before stated,) develops the casein in the milk. Stall fed cows yield much less casein than those fed in pastures. Cows that are required to yield cheese, should not be kept poor, but it is desirable that they should have to travel some way for their food. Some foods that animals eat, flavor their milk, as Swedish turneps; buttercups color it. Many plants may affect cows when taken with their food. The lecturer, a short time since, was in company with Dr. Daubeney, and Dr. Buckland, in Somersetshire, where they met with a farmer, who stated, as a singular fact, that he had two pastures, the one of which, when he turned his cows in, they became purged; and the other, when he turned them in, produced constipation. The farmer could not account for this; but Dr. Daubeney, on examining the fields, found that the one which purged the cows, contained a large quantity of purging flax (Linum catharticum,) with the grass, whilst the other contained an equal abundance of the common tormentil, or septfoil, (Potentilla tormentilla,) a very astringent plant, which at once accounted for their peculiar action. In Scotland, they procure good milk from stall fed cows, by feeding them upon malt refuse, and bean and pea meal, and giving them beer to drink. The malt refuse supplies the materials for butter and sugar, the beans and peas the casein, whilst the beer keeps up the animal heat. Water would carry off the heat, besides acting injuriously by dissolving the blood globules.

The principles of chemistry will also enable us to assign the causes, and in some measure to prevent the occurrence, of diseases among cattle. What is called consumption, rot, foot rot, &c., in cattle, arises from a slow combustion or destruction of their tissues, by the agency of oxygen. The same process goes on in vegetables; and it is well known that this process can be communicated from one vegetable to another, as from an apple to an orange, &c., and decaying vegetable matter will communicate this process to an animal. These diseases always occur amongst animals closely kept, where there is much decaying vegetable matter about. Animals exposed to drafts do not take these diseases; the draft carries off the decaying ferment. When this process is established in the intestines, it produces diarrhœa, and this probably arises from animals consuming bad food. Red water and black water, arise from the same disease extending to the kidneys. Rot in the feet, comes on from the same cause. It always occurs at that season of the year when vegetable decomposition is greatest, and occurs to the greatest extent where animals are obliged to tread on decaying vegetable matter. The treatment of these diseases should be by anti-putrescent materials, such as chlorine and the empyreumatic oils, &c. These will disinfect the stalls or sheds where animals are kept.

Dr. Playfair then stated that he had a few observations to make on the character of the internal and external structure of the organs of animals, in order to arrive at a knowledge of them as indications of their capacity for fattening and reaching an early maturity. These observations he wished to be put to the test of experiment, as he was aware that some of them were opposed to generally received views. First, with regard to internal structure, which was the most important. It was generally considered that animals with large chests fattened best, and it was supposed that all animals with broad round chests had large lungs. But this is not the case. Sheep have round chests and small lungs. Horses have narrow chests and large lungs. South Down sheep have narrower chests than Leicester sheep, yet they have the largest lungs. The Leicester sheep are known to fatten soonest. He spoke here of the aboriginal breeds of these animals. He had asked butchers, and they were unanimously of opinion that the fattest cattle had small lungs and small livers. Now this was a necessary consequence of the preceding principles. Where most oxygen was taken into the system, there would there be the greatest destruction of carbon, and consequently less carbonaceous material deposited in the form of fat. If two pigs had the same quantity of food, and one had lungs of double the capacity of the other, that pig would only appropriate half as much of its food in the form of fat. Milk with much butter in it, was known to be produced by cows with small lungs. The same held good with regard to the liver; where there was a large liver, there would be a large secretion of bile, and a large destruction of carbonaceous matter. If two animals ate 60 lbs. of food, and one secreted 37 lbs. of bile, and the other only 30 lbs., the food that was not formed into bile would be converted into fat; hence the gain on the animal with a small liver. With regard to external signs, small bones indicated a delicacy of constitution, smallness of lungs and liver, and a tendency to fatten rapidly; whilst large bones indicated just the contrary. The "mellow" feel of an animal depended on the resiliency of the cellular tissue of the animal, the tissue in which the fat is deposited. When there is much mellowness, it arises from the blood being easily pressed from one part of the cellular tissue to another, and indicates a susceptibility to fattening. The reason why animals get more rapidly fat at the end of their feeding season is, that the fat accumulating in the abdomen, presses upon the diaphragm and abdominal muscles, and thus prevents the more complete action of the lungs, and consequently the destruction of the carbonaceous material, by the inhalation of oxygen. The fat also prevents the oxygen being absorbed by the skin, and diminishes by its pressure the capacity also of the liver, and thus also adds to the fattening process. Large ears indicate a general coarseness of bone and muscle, and the same condition of lungs and liver, and are thus indicative of a small capacity for fattening. There were other indications which might be referred to, but the lecturer hoped these hints would be sufficient to set inquiry afloat on a very important subject. He apologized for what he considered the incomplete evidence he had brought forward to establish some of his views, but stated he had experiments in progress, which he hoped would throw more light on many of the more obscure points to which he had alluded.

Lord Spencer proposed a vote of thanks to Dr. Playfair, for his lectures, and stated how much gratified he had been in listening to them. He hoped agriculturists would see from these lectures, the great benefit likely to accrue to them from a knowledge of the principles of the science of physiology and chemistry. Mr. Pusey seconded the motion. Dr. Playfair, in returning thanks, stated that he had drawn up a series of statistical tables for circulation amongst butchers, for the purpose of gaining information on the internal structure of the animals which they slaughtered.

ADDRESS OF THE HON. GARNETT ANDREWS.—We have received a copy of the Address delivered by Judge ANDREWS, before the Planter's Club of Hancock co, Geo., Nov. 4th, 1842. The historical progress of Agriculture, the advances it is making in the southern states, the improvements in the agricultural processes, stock, &c. of the day, and the high standing of the farmer, and the position he should hold, are well and forcibly given, and we think cannot fail to exert a most favorable influence wherever the address is read. This address is only one of the many proofs we are almost daily receiving of the attention that an improved Husbandry is receiving at the South.

Original Papers from Contributors.

SOILING CATTLE.

Messrs. Editors—From the many letters addressed to me since the publication in your November No. of a communication relating to Bokhara clover and soiling, it seems necessary tha I should explain what appeared to my respectable correspondents so extraordinary—the having fed so numerous a herd from so small a quantity of land.

My stock of cattle for the last three years, has not been less than 40 head, which, had I pastured in the usual way, would certainly have consumed all the grass on my farm, leaving none to mow, which I obviated, as I said, "by keeping them in good condition on some 3 to 4 acres." It would have been better, had I said, *with the aid* of 3 or 4 acres in Lucerne, Rye and Clover, which enabled me to save more than one hundred tons of good hay.

I must also add, or throw into the account, a lot of 8 or 9 acres, in which there is a stone quarry. Its condition may be understood when I say, had it been allotted solely to one cow for the season, she would have been doomed to short commons. There was, however, good water in the lot; this, with the change and exercise it furnished, made it of considerable value for the purpose of soiling. It may also be proper to remark, that I own a woodland farm, distant about two miles from the homestead. Thither I send, in the spring, about a dozen dry cattle. This division left me on hand last summer, to provide for at home, about 20 head full grown cattle, and a few full blooded young heifers, and several calves.

My resources were two acres in rye and clover; both seeds sowed at the same time, the previous August, and one acre of lucerne, in the spring of 1841. I also sowed, in order to be fully provided, an acre of Indian corn, broadcast, which was not used green; it was cut and cured for winter fodder. I began to cut the rye for the cattle in the middle of April; it was very thick and quite tall, shooting into head; before through with it, the heads were formed. It was cut high, to save the young clover that stood with it. The rye fed off, the lucerne was ready; stalks as high as 2½ to 3 feet. When the lucerne was fed, then the rye and clover was fit for cutting; and it was surprising to see the second crop of rye so thick and tall. This time, clover cut with it. This through, the lucerne, which may be called "cut and come again," was provokingly tall, and yielded a heavier crop than at first. Then the clover which had been once cut, was ready, and before through with it, the lucerne was again fit for cutting. It and the clover were cut alternately, or fed together, as convenience or fancy might determine. Before my season for soiling (the middle of August,) ended, the lucerne's third, and clover's second crop, were not consumed. The remainder was cut for the hogs, who had all the leavings of the cattle previously. In fact, this proved very beneficial to them. I had about 20 large hogs, and some sows and pigs. In the hot weather, confined as they were to their pens, what the cattle left of the rye, lucerne and clover, was refreshing and cooling to them.

I said my season for soiling ended the middle of August. Why? Because I cut no second crop for hay. The cattle were then turned in upon the orchard grass and clover fields, "up to the eyes," and from middle of Sept. till 1st October upon the timothy fields—in all, some 60 acres, on which they made but little impression. Early in Nov. they were withdrawn, and put to turneps and other roots, of which I have generally a large supply for winter.

No one can see my grass fields in winter, without being surprised at the thick and closely matted sod that so perfectly covers them. Indeed, were a sensible farmer led over them blindfold, he could not but appreciate their condition, for their softness and elasticity would prove it to him; and this too, on some of the highest lands in the highlands of the county of Philadelphia, washed by the Schuylkill, and the more romantic and precipitate Wissahiccon, on whose banks, in my immediate neighborhood, the laurel grows as luxuriantly as on the shelving slopes of the Blue Mountains.

But to return to the feeding the green food. That cut late in the afternoon, was fed early next morning; that cut early in the morning was fed at noon; that cut about noon was fed that evening. This was the general practice. No more was brought into the stables at a time, than what was supposed to be required for one feeding. When the cattle were fed in the morning, they were turned out to the yard, and there left to stand for at least half an hour, or while their troughs and stables were being cleaned; then drove to the quarry lot above described. The yard was then cleaned, every dropping put away carefully on the dung heap. Before, or by 11 o'clock, they were brought home and fed; and by four in the afternoon, when the sun was declining, turned out as in the morning, drove to the lot; from which they were brought back by sun setting, and fed—remaining in the stables all night. The cattle had no other food, except occasionally a little good hay, which they were provoked to eat a handful of, as often as possible, and which is very necessary where so much green food is consumed. If the hay be thrown to them in quantity, while on green food, they will but waste it, not eat it. The best way is to tempt them by a handful, which, if they bite at, and eat, they may then be served with a small wisp in their troughs or racks. This, with a regular supply of clean salt, was all the food they had from middle of April, till middle of August, a period of four months.

Now as to the expense. One man and a boy, whose united wages were seventeen dollars per month, did all. The patch from which the food was cut, was, as it should be, close to the stables. The supply was brought in on hand barrows, wheeled into the entry, and served by hand into the troughs. Sometimes, when the horses were not specially engaged, a horse and cart was permitted; but this led to bringing too much at a time, and its being tilted at the door, carried on a fork some distance, tossed and turned too often, which rendered it objectionable, to say nothing of the danger of the food attracting some dirt or rubbish. Cleanliness in feeding cattle, is at all times essential, but in soiling it is indispensable; unless the troughs or racks are well cleaned after every feeding, and the stables kept clean and well ventilated, the cattle will assuredly fall off in appetite, if not take a specific disease. The expense of this practice was in reality nothing to me; it was some work superadded to the man and boy, who would be engaged taking care of this number of cattle, in cleaning them, driving them to and from the fields—the Durhams having to be milked three times a day—the keeping the stables clean, and taking special care of the manure. But suppose this man and boy to be extra help, then am I sure it cost me not a farthing. Every two horse loads of good manure, purchased in the city, laid down on my place, will stand me in $5.00. Then am I free to say, that the extra quantity of manure saved by soiling, was not less in the period of four months, than 20 loads. From this is to be deducted extra straw, rent of the three acres, and cost of producing the green food. But the great profit lay in the many acres producing two tons of hay to the acre, which if the cattle had been turned out upon, by the 1st of May, would have been despoiled; and which was prevented, by feeding them from the three acre patch, behind the barn.

Simple as these details are, they may seem to some difficult to put in practice. To such, I can only say—try; but let them not begin till they are prepared, having a good patch of orchard grass and clover, lucerne, or corn. Rye, I do not recommend; when quite young it may do, but when in head and filling, it is not good. I adopted it because it came early. How many are there, who, if they would mow the headlands of grain, corn, and potatoe fields, might in this way furnish a considerable item of the food requisite for soiling, to which might be added the extra shoots in corn hills; all this would benefit the lands by clearing the weeds from the fences, and it would pay, so far as the growing corn is concerned. Our southern friends might derive much benefit from partial soiling. A close or strict soiling, in our climate, I would recommend to none. But the appropriating one field, where there is water or shade, for air and exercise, while many fields may be used for cropping, that otherwise would be made bare by the cattle, and their equivalent in grass made from three or four acres, is a practice that may find favor with all, on arable, light, upland soils. Respectfully,

James Gowen.

Mount Airy, Philadelphia, Feb. 6, 1843.

CHARCOAL AND ROTTEN WOOD AS MANURE.

Messrs. Gaylord & Tucker—From Liebig, I learn that carbonic acid, water, and ammonia, contain the elements necessary for the support of vegetables, and that as nature does not in general furnish these ingredients in quantities sufficient for the perfect and full extent of development of plants, we should supply the deficit by art. The best and cheapest mode of doing this is a mooted question, but it does seem to me, that if Liebig's theory is correct as to the qualities and action of charcoal and rotten wood, they must be among the most valuable manures in existence. We are informed by this author, that charcoal has the power of absorbing 90 times its volume of ammoniacal gas, besides a large portion of carbonic acid; that decayed wood possesses the same power in the proportion of 72 to 90; and that where these articles are used as manure, it is by virtue of this power, through the medium of water, the roots of plants are supplied with nourishment; which supply is renewed as often as abstracted. There is, however, this difference to be noted between the coal and the decayed wood; the first enters into fermentation and putrefaction so gradually, that it will remain as coal for perhaps an age, while the last is decomposed in a year or two. The remains of coal will be principally carbon, and the remains of the wood will be principally humus or mold, both of which are yet valuable; as the first is a direct food of plants, and the last has the power, to a considerable extent, of condensing both carbonic acid and ammoniacal gases. In addition to your answers to an inquiry, as to the action of charcoal as a manure, given in the last No. of the Cultivator, I beg leave, Messrs. Editors, to say, that from reading and observation, it has the further property of preserving plants unchanged in their vital power, for a long space of time, so that the plant obtains time to develop the organs which are necessary for its further support and propagation. And let it be remembered that we know not what time nature has prescribed to the growth or productiveness of vegetables; therefore it is our duty, by every means in our power, to stride forward as near to the goal of perfection as nature will permit.

From experiments made by E. Lucas, it seems that coal of pine wood is preferable as manure, to any others, both on account of its porosity, and the ease with which it is decomposed; but from what Liebig says I infer that if the coal never decays, so much the better, for in that case, it is ever acting, and ready to act, in all the means and ways above enumerated. As to the porous quality of pine coal, I do not know that it is more so than chestnut or poplar; out of which, I have lately made, and am yet engaged making coal. And now, Messrs. Editors, I must beg your assistance in determining on its preparation and application. Last week I pounded about 500 bushels of coal, and cast it over the litter of my cattle yard; and if you do not advise to the contrary, I shall in the course of some 40 or 50 days, cast on about 1000 bushels more. I am inclined to think this will prove to be the most expeditious, uniform and economical method of application; but what say you as to this, and as to the quantity per acre? And do you think that coal from the size of shot to the end of the thumb, is sufficiently fine?

On my premises, I have a large quantity of rotten wood, which I am mostly using as a compost with ashes and animal flesh. Please say as regards this process?

And yet one other question if you please. What think you of the placing of sundry large open vessels, over ground needing manure, filling these with water, standing till putrid, putting in pulverised charcoal, and letting off by the spigot?

I have several hundred acres of surplus timber, consequently the coal costs me only the burning.

Amherst co. Va., Jan. 15, 1843. Za. Drummond.

☞ We are inclined to think favorably of the course adopted by Mr. D. in using charcoal. By spreading, or mixing it with his manures, he prevents the escape of ammonia, and secures a more equal dirtribution. We have no means of determining the quantity that may be used per acre, nor, from the nature of the material, should we apprehend any danger of excess. To produce the best effect, charcoal should be made fine. In the cases cited by Mr. Hepburn, in his valuable paper on the use of charcoal, in the Transactions of the N. Y. S. Ag. Society of last year, the coal was applied in a fine state, and it is probable much of its value would depend on this. Rotten wood, like peat, or muck, to become efficient at once, should be composted with ashes, animal manure, &c. Where flesh is used in the formation of composts, charcoal will be an excellent addition, absorbing all the disagreeable gases liberated, and retaining them for the use of plants. We should question whether the advantages of the putrid water and charcoal, as proposed by Mr. D., although it would doubtless be valuable in irrigation, would repay the expense of the process. Experience will doubtless prove that charcoal is by far the most durable of manures, and from its efficiency in the few instances where it has been used, promises to be one of the most active.—Eds. Cult

MANAFACTURE OF POUDRETTE.

Messrs. Gaylord & Tucker—I promised some time last year, to give you a short account of my method of preparing chemical manures from human excrements, and I will now proceed to redeem that promise, hoping that it may be useful to some portion of your subscribers. First, I collect the stercoraceous matters separately, in large vessels or hogsheads; after the urine has become putrid, wich will require but two or three days in warm, or ten or fifteen days in cold weather, I then add to the urine, sulphuric acid very slowly, which, if the urine is putrid, will cause immediately a powerful effervescence to take place. The acid must be added until effervescence ceases; by this process, the carbonic acid is driven off, a portion of sulphate of ammonia is formed, and the urine ceases to be volatile. I then add the liquid to the solid excrements, incorporating them well together, until a very thin batter is formed. Into this mass I stir in charcoal finely powdered, according to my judgment, without regard to any precise quantity. This done, I spread the mass upon tight boards in the open air, to dry, protected from the weather by a shed, open to the south so as to receive the sun; stir well, frequently, until it is dry; then pulverize with a spade, and barrel it up for the use of crops.

Manure made in this way, (without being nice about technicalities,) I call Poudrette. Of its value, I can speak in the highest terms. When properly made, it is almost completely deprived of smell, the application to crops easy, and its effects powerful. I made an experiment with it last year, on sugar beets, in comparison with bone manure, bone manure and stable manure mixed, and stable manure alone. The beets manured with poudrette, came up quicker, grew more rapidly, and maintained a decided superiority to the last, making the largest and best beets. The quantity of poudrette was only a small train to each drill.

I used it also in the culture of corn with entire success. In this experiment, I subjected it to a very severe test. I selected a very poor spot, (I am sorry to say I have too much of this kind of land yet,) put only one and a half gills, accurately measured, upon each hill, at the time of planting, and the result was every way satisfactory, and truly astonishing, proving it to be beyond all question, a manure of great strength and power, perhaps surpassing all others now in use. I shall make about 100 barrels in time for the next crop, at a cost not exceeding 75 cents per barrel, including the cost of barrel, which I shall use chiefly in the culture of corn, and as a top dressing for red clover, from which I anticipate the best results.

Manure thus made, must in all cases be used as a top dressing. If planted with the seed, it destroys the young germ, and the seed will not come up well. Sulphuric is a cheap mineral acid, and may be obtained in New-York, for about 3½ cents per lb.

Farmers who have the urine on their farms, after

treating it with sul. acid as directed above, may dilute it with water, and apply it to their crops in the liquid state, by a common watering pot; and treat the solid excrements with charcoal alone.

Can you give some plain directions about the operation of making capons? Very truly, yours,

GEO. WOODFIN.

Richmond, Va., Feb. 1843.

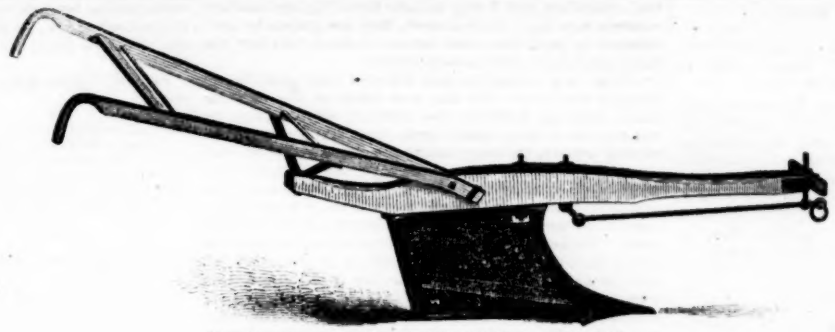
Our correspondent must have overlooked the communication of Mr. Keeler, in our Dec. No. of last year, in which ample directions were given for the performance of the operation of making capons, and to which we refer him for the information he wants.—EDS.

ASHES.

MESSRS. EDITORS—I hope our farmers will take your advice 'not to sell their ashes,' but use them on their own farms. Let them make it a rule to save all the ashes they make, and to buy all they can. There is no mistake in the benefit from their use on grass lands, and on meadows. I have seen the good effects of a load of leached ashes, spread and plowed in, for ten years in succession, in the grass and other crops.

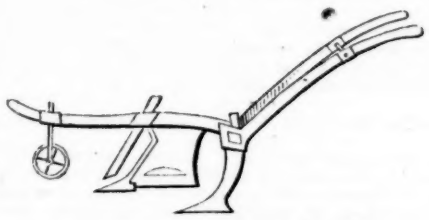
L. DURAND.

Derby, Ct., Feb. 1843.

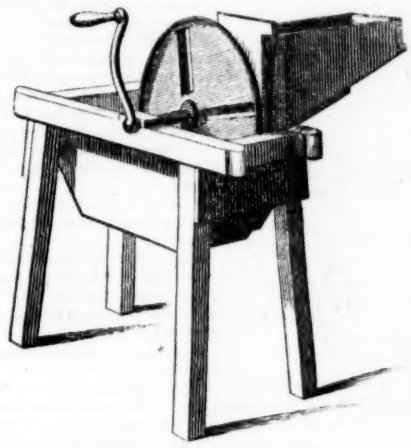


Ruggles, Nourse & Mason's Subsoil Plow.—(Fig. 21.)

Smith's Subsoil Plow.—(Fig. 22.)



The Charlbury Subsoil Plow.—(Fig. 23.)



Warren's Root Cutter.—(Fig. 24.)

IMPLEMENTS OF HUSBANDRY.—No. III.

MESSRS. GAYLORD & TUCKER—At the Fair of the New-York State Agricultural Society in Sept. last, I exhibited a subsoil plow, made by Messrs. Ruggles, Nourse & Mason, of Worcester, Mass., of which the above figure (21,) is a representation, which escaped the notice of the committee, and was not mentioned in their report, which I must confess, surprised me not a little, as it was a new implement in this country, and destined, in my humble opinion, to be of very great service in cultivating old and nearly exhausted lands.

The subsoil plow is not a new invention; but was in use in England, more than 50 years ago, and recently brought into prominent notice by Mr. Smith of Deanston, Scotland. In Dickson's Report of Lancashire, is the following notice of the "Minor or deep-stirring plow:

"There is another tool of the plow kind, somewhat similar in construction, which was introduced into the county, nearly at the same period as the trench plow. It simply consists of a plow-share, firmly fixed to a strong beam by means of a strong sheath and handle, without any mold-board. It is usually drawn by four or more horses, being made to follow in the furrow of the common plow, so as to penetrate into, loosen, and stir up the under soil, without turning it up, to the depth of from 8 to 14 inches below the track in which that plow had gone."

No. 22, is a figure of Smith's subsoil plow, and the following description of it, is by Mr. Morton, in his prize Essay, published in the "Farmers' Magazine," (London,) July, 1842, who says:

"Smith's subsoil plow consists of the ordinary frame work of a plow, without the mold board, made strong enough to stand the shocks and the strain to which an implement requiring the force of four or six horses to work it, must be subjected. This frame work is about 15 feet long. A sole plate on which a feather-shaped or pointed sock slips, is attached to it by means of two uprights, or curved coulter. The height of the plow, when held in a working position from the sole plate to the beam, is about 22 inches. It is thus enabled to go to a depth of 20 inches. From the furrow side of the sock, a spur projects, over which the mass of subsoil cut by the coulter and share, is raised and broken, and falls down again."

Now, the Worcester subsoil plow, differs in several particulars from Smith's. The handles and beam are reduced in length, and made of wood, and the whole implement reduced in size, makes it much lighter, and being shortened, can be turned round in much less space. In place of the spur, as on Smith's, this has an inclined plane, which raises from the feather of the share, and extends back to the heel of the plow. It is about three inches wide, lies against the upright, and raises about six inches behind. By means of a slot in the points of attachment, it can be raised or lowered at pleasure. By this inclined plane, the soil is raised, pulverised, and partially mixed, leaving it in a loose, friable state, without bringing it to the surface. By this simple contrivance, the draft has been so much reduced, that two common sized horses are amply sufficient to work it from 8 to 10 inches below the bottom of the furrow of the plow which precedes it, in a loamy soil, which is free from roots and stones. The greatest improvement, however, and especially at the present time, is the price at which they are offered, being less than one-fifth of the imported article. One of Smith's was imported in 1840, by Messrs. Ellis & Bosson, of Boston, at an expense of about $80. D. D. Campbell of Schenectady, imported another about the same time, or soon after.

The price of the Worcester subsoil plow, is $15, and can be had of the proprietors at Worcester, Mass., and of Messrs. Pruyn, Wilson & Vosburgh, Albany.

I have tried one of these plows, and was much pleased with its performance, and the ease with which the horses performed their work.

The expense of cultivation, by subsoil plowing, is much increased by the present mode, as it requires an extra hand and team to go over the same ground, and at the same time as the first plow; and to diminish the expense of the operation of subsoil plowing, and to adapt them to the wants of the small farmers, several attempts have been made in England, to combine the two implements in one. The first of them by Mr. Pusey, of which a figure is given above, and called the Charlbury subsoil plow:

"It combines in one implement, both the plows used in the operation of subsoiling. It not only stirs the subsoil, but opens the furrow in which the subsoil plow works. It consists in the attachment of a strong tine, similar to those used in Biddle's scarifier, to the common plow, in a position in which it acts after the furrow slice has been turned."

"This implement," says Mr. Morton, "doing all the work, requires according to an experiment recorded there, less force to work it than the subsoil plow, (!) doing only one portion of the operation. It cannot, however, be so efficient in thoroughly stirring the subsoil, as the original implement. The other attempt, at diminishing the expense of subsoil plowing, is by Mr. Armstrong of Stirlingshire, from which he received premiums from the Stirlingshire Agricultural Society, and from the Highland Society."

The following is a description of it, as given by Mr. Smith, at an agricultural meeting. It appears the inventor has adapted the principle of Wilkie's turn-wrest plow, to Smith's subsoil plow; and if I understand the principle of it, it is just what the American farmer wants, as one hand with one team, can perform both operations:

"The general frame work is that of a subsoil plow rather under the medium size, and to it is attached a hinged mold board, similar to the mold board of Mr. Smith's hill-side or turn-wrest plow. By means of this arrangement, the plow can be used for removing the furrow preceding the operation of the subsoil plow; and when the furrow has been removed, the mold board being moved upon its hinges from its working position, rests over the beam of the plow, whilst the instrument is used for subsoiling in the bottom of the furrow just removed. Thus the operation of removing the furrow and subsoiling, can be alternately performed with the same implement, by the same plowman, and the same team of horses, by a simple movement of the mold board, which is done in an instant, by the hand of the plowman, at each turning. The additional weight of the mold board, serves to keep down the plow whilst subsoiling in different grounds. The judges consider this implement well contrived, and as being an important boon to the small farmers, and as certain to give great facility to the extension amongst them, of the admirable system of subsoil plowing."

Every person that feeds roots to his stock, and more especially cattle, should have some kind of an implement for cutting them. I have used one of my own construction for the last seven years, and while it was at the smith's for repair, early in the fall, my roots were cut with a spade, and the pieces being of all shapes and sizes, one of my cows got choked with one of the pieces, which, however, was of but little consequence, as she was soon relieved with one of Caley's Probangs, which I have by me; and here I would remark, that I would not be without one of them, for five times their cost.

Having some business in Troy, in January last, I stepped into the Agricultural store of H. Warren, where I found a root cutter of his own construction, just finished. Some potatoes were procured, and a trial made which proved very satisfactory. Mr. H. insisted on my taking it home and trying it with various kinds of roots, which I did, and can safely say, that it is the *best* implement I have ever seen in use for that purpose. It is light, portable, and takes up but little space. The circular plate or disc, is of cast iron, mounted on a horizontal shaft, to which the crank handle is attached. On this plate, and parallel to the face, the knives are set, radiating from the center. There are four knives, and the thickness of the cut is regulated by the distance of the edge of the knives from the face of the plate, and they can be moved in and out, by means of stots through which the screws pass, which secures them in their places. The bottom of the hopper is also moveable, and can be adjusted to suit the thickness of the cut. The hopper is set very slanting to the wheel, by which means the roots press against the knife, by their own weight, which is found sufficient to hold them within the stroke of the knife.

It requires but little power to work it, as a boy 14 years old, can cut one bushel per minute; but it is capable of cutting two bushels per minute, by having a man to turn and a boy to feed. The knives can be removed or replaced with the greatest ease, by turning two screws. The knives being flat and straight, can be made by any ordinary blacksmith, and replaced with very little expense.

To my Dutch friends, who are in the practice of making *Sour Kraut*, it affords great facilities, for it will cut cabbage "to a shaving," and a tub full, before they could say "dunder un blixum."

They are now on sale at the store of Wm. Thorburn, Albany, and by the proprietor, H. Warren, River st., Troy, at $10 each. C. N. BEMENT.

N. B. After No. II. was written, Mr. Langdon informed me that the price of the improved Horse-hoe, would be $10, and I promised to have it altered; but not seeing the proof, the price of the first, $8, was retained. Ten dollars is as low as they can be afforded.

Three Hills Farm, Feb. 1843.

CHOOSING CATTLE.

MESSRS. EDITORS—It may not be amiss to give Mago's directions for choosing cattle for the plow. Our farmers will then see how much they have improved in their judgment on such cattle, within 2300 years:

"There are certain rules for the farmer to attend to, which Mago has thus laid down for his instruction. The steer should be young, strong, with large joints; long, blackish, and stiff horns; broad and curled forehead, rough ears, black eyes and lips, white and distended nostrils, long and bowed neck, white dewlap, which should hang down to the knees, a broad chest, large haunches, a spacious belly, extended sides, broad loins, exact and even pace, round buttocks, straight legs, not far asunder, and rather short than long, stiff knees, long and hairy tail, a short and thick head, red or brown color, and soft to the touch." WM. PARTRIDGE.

New-York, Jan., 1843.

"For all practical purposes, conscience is the best casuist, and to do as we would be done by, the safest rule."

FARMING EAST AND WEST.

In a letter from A Farmer of Richmond County, New-York, to SOLON ROBINSON, *of Lake C. H., Indiana, dated at Staten Island, Dec.* 12, 1842. (*Lat.* 30° 30′.)

DEAR SIR—The October No. of the Cultivator, (vol. IX, p. 154,) contains an article headed "Western Farming—Wheat and Wool," which attracted my attention, and shows on what a grand scale agricultural operations are conducted in the new and western states of our republic. There is nothing like it in Europe, not even in Great Britain, in some parts of which a whole county is owned by a nobleman, and extensive tracts are leased to farmers with large capital, who have the advantage of employing men and women at exceedingly low wages. These persons are denominated "Hinds," and "Bondagers," who (as related in Howitt's Rural Life in England,) are kept in mean and abject servitude. Notwithstanding these advantages of low labor, there is nothing to compare with the magnificent husbandry of Ohio, Indiana, and Illinois, where the land is cultivated by freemen.

Upon seeing the article above alluded to, I was delighted to read of a field of wheat of *five hundred acres*, and a field of Indian corn of *one thousand*, and even *twelve hundred acres*. Were I younger, (thinks I to myself,) I would go a considerable distance to see the glorious sight. Oh! how my heart leaped at the idea of such a blessed country as we inhabit, where Providence has poured out in such profusion for our use, every production that the earth can yield, and more than our merits deserve, or our wants require.

The contrast between farming in these parts of the United States, in the small way, and agricultural operations in the west, is so great, that some of our husbandmen can hardly conceive how you carry them on. Here the land has been divided, and sub-divided, until most of the farms are small, and we have been obliged to borrow the maxim and practice of Connecticut, to

"Till little, and that little well."

Hence our movements are like those of a small boat, contending against wind and tide; while yours are like the motions of a ship of the line, with a stiff breeze, and a fair prospect ahead.

The article on "Western Farming," however, has suggested some inquiries, which I have thought you could answer more satisfactorily than any one I know. You may be surprised at such an application from one with whom you are not acquainted, but be assured that the writer of this, though he resides in an extreme corner of the state of New-York, is well acquainted with you, and sees or hears from you almost monthly, in the Cultivator, and admires your writings.

Know then, that after perusing the abovementioned account of "Western Farming," it was read to one of my neighbors, called in for the purpose, who cultivates forty or fifty acres, *who is not a book farmer*, but a person who jogs on in the old way, and makes a tolerable living for himself and family, without reading the Cultivator, or any other agricultural journal. He listened with attention, until I had finished reading the article. After a short pause, he asked,

"And do you believe all that?"

"Certainly," I replied.

"So do I," said he, "believe it to be—a lie."

"But, my dear sir," said I, "you must recollect that in the western states, land is cheap, and the virgin soil only requires to be plowed, and sowed, and the crops gathered."

"And don't we plow, and sow, and gather our crops?"

"Surely we do, and we have to plow, and re-plow, manure, and harrow, and cross-harrow, and house our crops, secure and husband our straw, husk our corn, and gather our stalks; and when all is done, we expend more labor with less profit, than they do in the west."

"What becomes of their straw when their grain is thrashed, and their corn stalks when their corn is husked?"

"I presume these are of secondary consideration, and are left in the fields to rot, or be consumed by fire."

"Read that again about a large field of corn."

"I will, it is as follows," viz:

"Go to the farm of the Messrs. Sullivant, near Columbus, and see on the beautiful river flats, from twelve to fifteen hundred acres of corn, while their fine flocks are covering a thousand hills; or visit the Illinois prairie farms, such as is the one described below, and you can form some conception of western farming."

"Now in the first place, these new countries are not thickly settled, and cannot be where there are such large proprietors, and large farms require many hands to work them. Where for instance, could they get farm laborers in sufficient numbers to plow and to plant twelve or fifteen hundred acres of corn? Lend me your pencil, and let me calculate.

"If you allow, as we do in these parts, that upon an average, one man and team can plow an acre a day, it would require *forty-six* men and teams per day, for *twenty-six* days in March and April, to plow *twelve hundred acres*.

"In the next place, 1200 acres are to be planted between the first and twentieth day of May. In 1841, I planted seven acres of corn, and *eighteen days labor* of men and boys, were required, with two teams part of the time, to cart out manure, drop it in the hills, drop the corn, and cover it with the hoe.

"At the same rate, to plant 1200 acres, would require 3085 days labor, or *one hundred and fifty-four hands*, daily, for twenty days of fair weather. Now where is the farmer, east or west, that can command, employ, and provide for such a regiment of men and boys? Tell me *that*, neighbor, and I may believe these big stories about western farming. Rest assured, they are got up by speculators in land, who want settlers to come and buy the large tracts they have monopolized."

"That may in part be true, but still your calculation is much too large. In the new lands of the western states, they are not under the necessity of manuring as we do, nor do they spend much time in hoeing corn, cutting it down, stouting, husking, or housing the stalks."

"I should like to know then, how they manage such large crops of corn and wheat. In the account which you have read to me, it mentions that Mr. Underhill has erected on the river, 'two large barns,' 30 by 50 feet each. These I do not consider *large barns*, as we have larger ones here in Richmond county, on farms of 150 and 200 acres. It is difficult for me to conceive how they contrive to raise crops of 500 and 800 acres of wheat, and to secure it in season, and in good condition at harvest time. The cradling, the binding, and securing so much grain, must be done in a short time, when it is ripe and ready to be cut, and the interruptions of bad weather, and Sundays, might jeopard or destroy much of it. Mr. Underhill's 'large barns' would not hold the sheaves of grain, from one hundred acres. I would ask then, how many hands does it require to cradle and bind 500 or 800 acres of wheat, where is it housed, where and how is it thrashed and cleaned, and how is the straw disposed of?"

"I cannot solve your doubts, or answer your inquiries, but I will introduce you to Mr. Solon Robinson, who will."

"Who is Mr. Robinson?"

"He is a farmer residing in the northern part of Indiana."

"Ha! ha! ha! how can you introduce me to him?"

"Thus: I will write a letter to him, and he will answer it through the 'Cultivator,' and if you will take that valuable journal, you will become acquainted with him as I did."

"That may all be well enough, but I don't like these book farmers."

"Mr. Robinson is a practical farmer, and knows all about how agriculture is managed in the west. If he was our neighbor, we could see and converse with him, but as we cannot have personal intercourse, his writing it down, and giving us the information you desire in the Cultivator, does not make that information less valuable or true."

"Well, that's very correct, have it your own way, and write; I should like to hear from him. Perhaps I'll take the Cultivator."

Thus, Mr. Robinson, I have my own inclination, and my neighbor's request, to write to you, and request an answer to the several doubts and queries herein proposed, respecting the large crops in the western states.

That you may understand how these doubts and queries have originated, I will furnish you with some abstract statements, showing how we have to strive, and labor, and calculate, to make ends meet, in these parts, where the lands are pretty well exhausted, require renovation, and yet cannot be purchased at low prices.

In the first place, I will give you the whole statement of the labor expended on seven acres of corn, planted in 1841, herein before mentioned by my sceptical neighbor, viz:

24 days work in plowing, harrowing, spreading manure to be harrowed in, harrowing again, and furrowing.
18 days in dropping manure by the shovel in hills, dropping corn, and covering it with the hoe.
2½ days in replanting where the corn from excessive wet, had rotted in the ground, and had been pulled up by crows.
20 days first plowing and hoeing.
13 days second plowing and hoeing.
10 days cutting down and stouting.

87½ days.

Here then we have eighty-seven and a half days labor expended on a seven acre crop of corn, not including the expense of husking, which was done at intervals, partly in the field, and partly under cover in the barn. You will therefore not be surprised at the doubts of my neighbor, when you see the amount of labor we expend on a small crop, and compare it with your magnificent agricultural operations in the west. The value of the manure applied to this crop, was $122.25, which added to the labor, was more than the value of the corn and stalks, which latter were preserved for fodder. The season was too wet and unpropitious for corn, and the crop, though manured at more than seventeen dollars in value per acre, was nevertheless a poor one. The land, however, was improved for a subsequent crop.

In the autumn of 1841, a field of six acres, worn out by preceding culture, was broken up, cleared of rocks and stones, bushes and briars, and stumps, and so highly manured, that it was thought to be in a good condition to bring a crop of grain. The expense of labor and manure, was $155.00; of manure alone, $132.36, or $22.06 per acre. The field was partly sowed with wheat, and part with rye, and seeded with clover and timothy, to bring it into grass for hay.

The winter of 1841 and '42, was very open, and much of the grain was destroyed by frost. The succeeding spring and summer were wet, and the harvest a poor one. The grass however, came forward after the grain was off, and in September, ten loads of hay were cut from the same six acres. But the wheat, the rye, and the hay, would not pay for the labor and manure applied. Thus are we sometimes disappointed on these old lands, notwithstanding our best exertions, and high manuring. But it is not always so, as the following example will show, and also how close we have to calculate to make our profits.

In 1840, I planted ten acres of corn with the following result

Product.		
975 bushels of ears of corn or 487½ bushels of shelled corn, at 56 cents, the then wholesale price,		$279·25
50 bushels hog corn, at 25 cents,		12·50
50 loads of corn stalks for fodder, at $2·00,		100·00
Cobs saved for kindling wood, and ashes, valued at		10·00
Pumpkins grown among the corn,		17·72
		$419·47
Expenses.		
Plowing, harrowing, furrowing, planting, manure and seed,	$131·68	
First plowing and hoeing,	7·57	
Second plowing without hoeing,	3·00	
Gathering corn,	10·00	
Interest on $925·00, for one year, at 7 per cent, cost of the land, at $92·50 per acre,	64·75	
	$217·00	
Of the manure applied, deduct one-third, unexpended in the soil, applicable to the next crop,	39·25	
		$177·75
Nett proceeds of a crop of corn, of 10 acres, in 1840,		$241·72

With these statements before you, an opportunity will be offered of comparing great things with small, the cultivation of the soil by wholesale in the west, and the same by retail in the east. In casting my eyes about me, the freeholders and farmers, neighbors in sight, have 40, 100, 130, 143, 65, and 200 acres of land, &c. I hope you will not fail to make a reply to this communication, to satisfy my fastidious neighbor, and at the same time, gratify your distant friend and fellow laborer, who is a cultivator of the soil, in the county of

RICHMOND.

SHEEP—WINTER MANAGEMENT.

MESSRS. GAYLORD & TUCKER—Sheep, and particularly ewes, ought to be carefully attended to, this month. To prevent disease and to raise plump lambs, depends upon the care you take of ewes the remainder of foddering time; they should be fed with roots of some description, twice a week: or daily will do them no harm. Sheep, at all seasons of the year, should have a supply of salt, to which they can have access at all times. Mr. S. W. Jewett's mode, (as described in the last number,) is an excellent one. My custom is to place the salt in troughs under the shed. Water is another indispensable. Sheep will drink four or five times in a day, if they can get it without too much trouble. It is said that pea straw, thrown out two or three times in a week, will be snatched with great avidity. Feeding sheep at stacks, and permitting them to help themselves, is poor economy; the wool becoming saturated about the neck, with dirt and grass seed, which it is impossible to cleanse in washing.

To avoid this in a great degree, I propose that every farmer supply himself with sheep racks, as described in Cult. Vol. VII, No. 4. I prefer these to the board racks, because they are much lighter, (the wood, excepting the boards, should be cedar,) more durable, and less liable to get out of repair, and can easily be moved by one person. All must perceive the fallacy in a wet time, of carrying out hay from place to place, to find some spot where the hay will not be trampled upon and wasted. Much is wasted in this way, by some farmers. A rack, as above described, will in a great degree, prevent the grass seed and other substances, from lodging in the wool. There is another advantage in feeding in racks, in time and labor, (if your barns are at a distance,) by throwing in hay enough to last through the day, and it prevents the hay being scattered by the wind.

Another error, in my opinion, which exists among farmers, is in allowing their sheep to wander over their lands, when bare in winter and spring, destroying their appetite, obtaining but little, if any nourishment, and often bringing disease and death among them. This is the trying month for sheep; if you see any declining to eat, remaining behind when the others are fed, they should be separated at once, and receive more care, and more nourishing food. Above all, see that your stock have salt constantly; this is one of the best preventives of disease. Yours, &c.

Shoreham, Vt. Feb. 19, 1843. E. H. NORTHRUP.

AGRICULTURAL SCHOOLS, &c.

MESSRS. EDITORS—I am constrained to differ from many of the best friends and ablest advocates of agricultural improvement, on the important subjects of *legislative aid* and *Agricultural Schools*.

It is useless to say that the farming interests have no need of aid, but it may be well questioned whether they have more need of legislative aid than any other of the great interests of our state, and whether this is the best way of promoting these interests. To say nothing now of those great objections against partial and too much legislation; is there any thing peculiar in our profession, that it can be better promoted by the combined influence of government, than by the healthful influence of individual emulation, voluntary associations, and especially agricultural papers? There are hundreds of farmers scattered in almost every part of the state, stimulated by their interests, by a love of their profession, and by a generous regard for the public good, to carry the improvement of their farms to the highest practicable point. They have all the means of improvement, and

by books and papers, they possess all the information the age can afford; and the success of these enterprising men is working a silent, but certain revolution in every county and every neighborhood.

Now what can the state do for these men? It cannot add to their means, or increase their motives for exertion; certainly not, by dividing among them a small sum of money, as premiums for the finest crops or stock. I think the farmers of this country could answer with some propriety, as certain merchants once did, when asked what should be done for them; "let us alone," was their significant reply. The cause of agriculture is advancing with great certainty, and not very slowly. And first among the causes, stands the agricultural press, particularly such papers as the "Transactions" and the "Reports" of committees, on the various subjects assigned them. Next is the all-pervading and silent influence of the example of the successful farmer, appealing directly to the interest, without much exciting the prejudices of his neighbors. I would not omit the mention of agricultural shows; let their value be duly estimated; and so the kindly influence on the social feelings, of the speeches at an agricultural dinner.

In regard to an Agricultural School, although it may look promising in theory, in its practical details, you will find it a very difficult affair to manage, especially for a government or a corporation. If we must have a school, would it not be better to leave it to the direction of individual enterprise? Would it not be better for every young man to learn the practical part of his profession with his father, or at least on the private establishment of some well informed practical farmer. His Chemistry, Geology, Surveying, Mechanics, and every other necessary branch of science, he will of course learn in those institutions, equally open to him, as to those of any *other* learned profession.

I know we are pointed very significantly to the institutions of this kind in Europe, and to the fostering care exercised towards agriculture by some of the European governments, as if to shame us republicans, for our remissness in this matter. But the grand difference in our institutions alters the case entirely. In Europe, the government *stands on the other end;* the few are enlightened, the many are with great difficulty reached by any motives to improvement; they never lead, but they must be led and encouraged by all the means that can be brought to bear on their minds, by those who stand at the sources of influence. But here, agricultural knowledge and the means of improvement, are in the hands of the many, the owners of the soil, who have every motive for the advancement of their profession. Shall we then talk of government offering patronage to the farmers? The farmers are the patrons of government.

Dutchess co. Feb. 1, 1843. N. REED.

APPLICATION OF MANURES.

EDITORS OF THE CULTIVATOR—In forwarding you my subscription for 1843, which I do with much pleasure, as I consider it a dollar well laid out, I will take the opportunity of making a few remarks on the (to farmers) all important subject of manure, which appears now to be receiving the attention, I will not merely say which it deserves, but which mankind are now compelled to pay to it; for in England, as well as on this continent, severe cropping, with non-adequate returns to the soil, has brought many fine farms to so low a state, that the owners must either restore them to their former capability of production, or be ruined.

It is strange, considering mankind have been cultivating the soil since the days of Adam, that no one has yet discovered the best method of restoring its productive powers; one man tells us, that we should take the unfermented dung and straw from the farm yard, and carefully plow it well under, without allowing the sun to shine on it for an instant; by these means we lose none of the gases, *the only valuable part*, which penetrate the clods, render them friable, and furnish food, not only to the roots, but gradually escaping from the earth, are absorbed by the leaves, which, being furnished with respiratory organs on their under side, inhale the exquisitely refined nutriment—and, by their dark green surfaces, show in a few days how well they have fared. This method being one of the easiest, finds many supporters. Next month, we are told unfermented manure *may do in some soils*; but the writer of this second communication, assures the world, that from long experience he has found that the *best way* is, to make every thing you can rake and scrape from farm yard, ditches or ponds, *into heaps*, and these should be turned and well mixed when the fermentation has generated a considerable degree of heat; he then states, that he does not approve of plowing the manure under, as you thereby lose most of the goodness, by *filtration;* he recommends simply harrowing in the compost, taking care to spread it very evenly.

Now, what is a plain matter of fact farmer to do, when he reads such contradictory statements? From all that I have read, both in the Cultivator and other papers and books, I have come to the conclusion, that neither farmers, professors or doctors, as yet know *much* on the subject, and from the recorded experience of many of your correspondents, it is evident that what suits one kind of soil does not suit another, and what makes it more difficult still, is that what is beneficial to one kind of plant or crop, is injurious to another, even on the same soil. It is a good plan for all to contribute their experience, and I will now state one or two facts and observations for others either to *confirm, disprove* or *draw useful inferences* from the same. First, the sun does not exhale *all*, perhaps *not any* of the *useful* parts of manure when spread abroad; as a proof, spread manure the end of April, on a portion of grass land, and observe if the crop is not heavier where the manure was spread, than other parts (of equal quality) that had no manure; also observe, in a pasture field not too closely fed, and round each spot where a cow dunged early in the summer, will be seen a ring or margin of grass taller and greener than elsewhere; also, nature spreads all her manure on the surface, dried leaves, blades and stalks of grass, weeds, &c. &c. Secondly, filtration is imaginary; during the fall of 1840, I burnt out several old stumps, but did not scatter the ashes they made; during the whole of the summer of 1841, a belt 12 to 18 inches wide surrounded the spot where each stump had stood, of *taller* and *greener* grass than any other part of the field, and the same superior verdure lasted all last summer; the soil was light and sandy; surely the rain and snow of two years ought to have carried all potash beyond the reach of the roots. What further proved to my mind that *the salts do not filter* down into the earth, some of the stumps had stood on little hillocks as they often do; where that was the case, I observed the verdure *lessening as it descended* the side, probably two feet, when the effect seemed lost. Again, I have seen spots where cattle had been penned at night for a month or two; for *six years* afterwards, the vegetation was double on that spot to any other part of the field, although all the manure had been carefully removed and scattered about; now, nothing but the liquid could have gone into the earth, and yet the rains of six years never washed away the beneficial effects.

I once sowed some garden seeds where a large roll pile had been burnt; those I sowed without disturbing the soil beyond raking in the seed, did well; a square yard or two I dug the depth of a spade, and on that part I had a miserable crop, and every man who has formed a garden on fresh cleaned land, knows that his first crop, when the roots will not allow him to dig or plow, is a good one, and not until he has dug and manured the ground for 3 or 4 years does he raise vegetables equal to the first year. My own views and deductions from these facts I will not now state, as I wish others more able, to comment on them first. I shall have no objection to reply, or state what I think, at a future period.

Goderich, U. C. Jan. 1843. QUERCUS.

REPORT ON COWS, HEIFERS, &c.

IN publishing an account of the State Fair in the Nov. number of the Cultivator, the following report was omitted:

The Committee of the "N. Y. State Agricultural Society," on Cows, Heifers, and Heifer Calves, comprising Classes V, VI, VII, and VIII, respectfully report:

That they have attended to the duties of their appointment, in which they experienced the embarrassment usual on such occasions, from finding the animals *numerous*, while the *premiums* were *few*,—but adopting the rule that a *majority in number* of the committee, should of course in all cases be decisive, they arrived at the following results:

[For list of awards, see Nov. number, 1842.]

Your committee found it no easy matter to decide among so many *fat* calves as were shown in class VIII, their respective *merits* and *faults* being alike covered and hidden by *flesh*, so much so that they were really better adapted for the inspection of a committee of *butchers* than of *breeders*.

The practice, now too common, of *fattening* breeding animals for exhibition, is not only wholly without utility, but is so bad and injurious in every point of view, that it ought to be discountenanced.

It will not fail to be noticed that *all* the foregoing premiums are given to animals of the valuable breed known as "Durham Short Horns," against which kind there was on this occasion, no other breed shown in competition, except *Herefords*, of which there was a beautiful and very creditable exhibition, consisting of a portion of the herd of Messrs. Corning & Sotham, some individuals of which, this committee would highly commend, especially as being good specimens of that important quality, *good handling*, always essential to excellence.

Your committee, (of which a portion, if not a majority, is composed of what might be called "Short Horn men," either by *preference* or *interest*, as Short Horn breeders,) from motives of *delicacy*, not to say *generosity*, did not deem themselves called on *to decide between these two rival breeds*, and *against* the *Herefords*, which would have been for the most part, and *in effect*, their decision, if made on this occasion.

In England, the *home of both breeds*, where *beef* is the *first* and almost the governing consideration, the *Herefords* as a breed, it is well known, have long maintained a sharp and *often successful* competition with the Short Horns, for *feeding* purposes, especially as a *grazing* stock; while it is claimed, and now generally conceded by well informed dispassionate persons in England, that the *well bred* Short Horns have the merit of *earlier maturity*, and are also entitled to the preference for *stall feeding*, and more especially and decidedly so for *dairy* purposes, in which the *Short Horns* and *their crosses* are believed *to excel all other breeds*, and that the *pure bred males* of this breed are *capable of improving all other breeds of cattle;* certainly a most important consideration, and especially so, in this and all the northern portion of the United States.

It is understood that the *Herefords* have not yet been sufficiently *tried* in this country as *milkers*, in the absence of which, there seems to prevail at present an *unfavorable impression* of them as *dairy* stock, which impression it is to be hoped may soon be done away, if, as their friends claim, the Herefords are really a superior milking breed. Some of their *crosses* with native stock, now existing in Massachusetts, descended from an importation of Herefords made many years since, by Admiral Coffin, are understood to have proved excellent milkers.

It is besides claimed for the Herefords, that they will make *good working cattle*, being strong and active, which is not doubted. It is also conceded that the *quality* of the Hereford *beef* is *excellent*. Therefore, taking no more than a fair view of their case, the Herefords must in all probability, prove a highly valuable stock in those portions of this country where the *grazing* of cattle for *beef* is a primary object.

Under these circumstances, your committee would ask in behalf of the newly imported Herefords a *fair chance*, —and that they be allowed after coming from on ship board, to *get well upon their feet*, before they "enter the lists" against the now well established Short Horns. If the Herefords are cherished and encouraged for a time, it is to be hoped that the now favorite Durhams, may by-and-by, in future competition, find in them "foemen worthy of their steel."

If the Herefords were distributed in more hands, so as to give room for competition among themselves, your committee would suggest the expediency of hereafter offering premiums for them in a class distinct from other breeds. Also for *North Devons*, a highly useful and most valuable breed, especially on light soils, and in hilly districts of country.

Your committee cannot in justice, close their report, without remarking that the want of information as to how the animals *had been fed*, also as to the *milking* qualities of the cows, and occasionally as to the *pedigrees*, was much felt by the committee, who in the absence of this needed information, were in many instances left to grope their way in the dark to a *decision*, of course in some cases, by no means satisfactory even to themselves. Nor did we find persons in attendance, to *lead out* the animals for a more full and careful examination, especially as to their *style of carriage or movement*, which it is needless to remark, is, as well as form and *handling*, an essential element of any intelligent opinion, or critical decision on their merits. All of which is respectfully submitted.

DAVID C. COLLINS, of Hartford, Ct. *Chairman.*
I. S. HITCHCOCK, CHARLES BROOM,
W. K. TOWNSEND, R. L. ALLEN,
Albany, Sept. 29, 1842. *Committee.*

HINTS TO FARMERS.

EDITORS OF THE CULTIVATOR—"Economy means management, and nothing more; and is generally applied to the affairs of a house and family; which affairs are an object of the greatest importance, whether as relating to individuals or to a nation. There never yet was, and never will be, a nation permanently great, consisting for the greater part, of wretched and miserable families." In every view of the matter, therefore, it is desirable that the families, of which a nation consists, should be "happily off;" and "this depends in a great degree, upon the management of their concerns."—*(Cobbett's Cottage Economy.)*

There are few farmers, who manage in every respect, all their concerns to the best advantage. Yet there are very many who are constantly guilty of errors, the results of which are truly embarrassing; one of which is being too often repeated to pass without notice. It is this: *selling upon credit*. It may be that I am getting upon controverted ground; be this as it may, my observation at least confirms it. When the farmer sells the product of his farm "on time," he mostly is compelled, as a matter of course, to risk the results of the commercial enterprise of the purchaser. If the result is favorable, he is paid; if not, a crop, or the labor of a year, is lost. It may, however, be said that it is wrong for the purchaser or merchant to sustain all the losses. But let it be remembered, that the merchant risks for the chance of speculation or great gain. If he be successful, the farmer gets but the price of his labor; if he should be unfortunate, the farmer has to share the loss. The rule does not work both ways, and is therefore not a good one.

But I have another reason. Farmers are generally less acquainted with human character than most other classes of men, and therefore more liable to be imposed upon. The merchant who is in the daily habit of scrutinizing human character, is much less liable to be imposed upon, than an individual who is pursuing the quiet pursuits of an agricultural life. The one, from his profession, is wary; the other, unsuspecting. Who has not witnessed with mortification, the two frequent instances of individuals of ruined fortunes, purchasing "upon time," the produce, not only of a single farmer, but of a neighborhood. Within my limited observation, it has certainly too often occurred. It is bad "economy," and so long as farmers continue selling upon credit, many, very many, will be made poor and miserable. "To live well, to enjoy all the things that make life pleasant, is the right of every" farmer, "who constantly uses his strength judiciously and lawfully," under a well directed economy.

There is yet another thing in relation to selling, which I consider bad "economy." It is not selling so soon as agricultural products are ready for market. Many persons are in the habit, when they cannot get just the price they wish, to hold over for the market of next year. Hogs are sometimes turned out of the pen when

fat, because pork is lower than we think it ought to be. A horse is not sold, and kept over winter, because the purchaser lacked five dollars of offering the price asked, and ten to one if he is not sold on a credit of some six months, for the sake of the five dollars, and nothing got. Prices may be low but I hold it as the safest rule, to sell for the best price we can get, whenever we are ready for market. Take an example; let it be the horse. We are offered within five or say ten. He is at his zenith; one hundred is asked, and ninety is offered. There is no sale. The horse is kept twelve months, which is worth $20.00, if he is a horse for sale. The horse is then sold for the price asked, one hundred. Then we have gained five or ten, and lost twenty; which makes in the transaction, a clear loss of ten or fifteen dollars, to say nothing of interest and risks; and this will hold true to a greater or less extent of all other live stock. I look upon this in general, as bad economy, and it deserves at least a more careful consideration than my limits will permit.

But it may be thought that I have overlooked a very important error in the economy of this country—*going in debt*. This is an error which is but to manifest, certainly, to require any thing said upon it. But this much I may say, in connexion with what has been urged above: that it will be hard to avoid it, if the farmer continues the practice of selling his products upon *credit*. Debts are contracted with a view to being met by those that are owing, or in anticipation of the growing crop. In the first instance, there may be a disappointment from some commercial failure—and in the second, by a failure of crops, or in realizing the amount for them that was anticipated. Loans are next to be made, and interest paid, or property executed, either of which is ruinous to the agriculturist. But when the products of agriculture are sold for cash, the necessity of going in debt is avoided. With cash in hand, his wants are supplied with great advantage, purchases can always be made at lower rates, which is interest in advance; and upon this subject (interest,) I intended to say a word, but have not room upon this sheet. It is not alone in the best mode of cultivating the soil—in rearing the largest crops, and the finest stock, that we are to expect independence, and all the multiplied comforts with which an agricultural life should be blessed. It is far otherwise. A proper "economy" embraces every thing in the whole circle of our transactions. A. C. Stevenson.

Green Castle, Ind. 1843.

AGRICULTURAL CHEMISTRY.

Messrs. Gaylord & Tucker—In the December number of the Cultivator, I noticed a communication from Mr. Wm. Partridge, on chemical manures, in which he asserts that Liebig is in error, when he states that carbonate of ammonia will decompose plaster at common temperatures. I was induced from reading the article, to try some experiments on these substances; not because I doubted the correctness of Liebig's statement, but to learn the extent of the decomposition under certain circumstances. The experiments were conducted with much care, and I believe the results are correct. 100 grains of gypsum (sulphate of lime,) were mixed with a cold solution of 70 grains carbonate of ammonia; and the mixture was allowed to remain for 10 hours where the temperature was not above 60 degrees. The clear solution was then separated from the sediment and found to contain 67 grains of sulphate of ammonia and 10 grains of carbonate of ammonia, (undecomposed.) The sediment contained 50 grains of carbonate of lime, and 14 grains of gypsum, which had escaped decomposition. When 100 grains of gypsum were mixed with a solution of 55 grains of carbonate ammonia under the same circumstances, the latter salt was entirely decomposed, and pure sulphate of ammonia remained in solution. The sediment was a mixture of carbonate and sulphate of lime. When gypsum and carbonate ammonia in solution were mixed in the proportion of 100 to 90, the gypsum was entirely decomposed and resolved into sulphate of ammonia and carbonate of lime. Mr. Partridge was probably led into error by the tables of affinity found in the older works on chemistry. Now these tables do not express the true affinity of the substances named in them, but merely the *order of decomposition*, and even for this they are of but little use. For instance, the table tells us magnesia will separate ammonia from its combination with sulphuric acid, and lime will separate magnesia, but the separation is only partial. Lime added to a solution of sulphate of ammonia, will cause a part of the sulphuric acid to leave the ammonia and combine with the lime. So also when a solution of pure ammonia is placed in contact with sulphate of lime, it will effect a partial separation of the acid from the lime. We might infer from this, what is in fact the case, that if we saturate sulphuric acid with ammonia, and add as much lime as would have saturated it, the lime and ammonia divide the acid between them as long as the ammonia remains in the liquid state.

Quantity will compensate for superior affinity. Thus a large quantity of lime will entirely separate the ammonia from sulphate of ammonia; and the converse is true that a certain quantity of ammonia will separate lime from its combination with sulphuric acid. Other circumstances modify chemical decomposition and recomposition, as volatility, insolubility, &c.

Chemistry is intimately connected with agriculture; and farmers would find it greatly for their interest to acquire a knowledge of this science sufficient to understand the chemical changes that are continually going on in the materials upon which they operate. The loss arising from ignorance of these changes, or neglect to take advantage of them, is very great even in one agricultural district, or on one farm. Plants contain from one to two per cent of nitrogen, and this nitrogen can be assimilated only when presented in the form of ammonia. This must be supplied from some source, or the plant will not grow. Liebig informs us that one pound of ammonia will supply nitrogen for 60 pounds of corn or 80 pounds of hay. Yet a majority of our farmers allow a considerable part, sometimes nearly the whole of the ammonia in their barn and stable manures, to evaporate in the air or sink into the earth where it can do them no good. Floors where cattle stand, are often badly constructed—a sufficiency of straw or other matter is not used to absorb liquids; and the manure is thrown in a heap in the open air, where the sun, rains and frost, drive off so much of its ammonia and other fertilizing principles that it is materially lessened in value. Experienced farmers assert that when manure is exposed to the weather through the season, it loses one-fifth of its first value. If this is true, and there can be little doubt of it, the increased value of the manure in one season would be equal in many places to the cost of a shed for covering it. Another source of loss, proceeds from allowing it to ferment or *heat* to such a degree as to decompose or volatalize a large portion of the most essential ingredients. If gypsum was properly applied, it would fix the ammonia so that *that* could not be volatilized by the strongest fermentation.

Many farmers imagine that sand or loam mixed with stable manure, increases its value as much as peat or other vegetable matters; this is an error. Sand or loam is beneficial only by preventing too active fermentation and by absorbing a portion of the volatile and soluble ingredients. While peat or other vegetable matter has all these beneficial qualities, and at the same time increases the quantity of manure by its own fermentation.

Farmers in general, truly appreciate the value of *ashes* as a manure. Yet many are not aware that if ashes (earthy salts,) are not supplied to cultivated soil in proportion as they are taken from it in vegetable product, the soil will become in time unproductive and exhausted, though an abundance of carbon and nitrogen were supplied to it. These remarks are intended principally to convey an idea of the benefit which many would receive from a knowledge of the *Chemistry* of Agriculture.

Yours truly, E. Manley.

Easton, Mass. Dec. 21, 1842.

POUDRETTE AS A MANURE.

Messrs. Editors—A few facts, the result of practical experience, in relation to this article as a fertilizer, may be interesting to some of the numerous readers of the Cultivator. If the editors think them worth the space they will occupy, they are at their service, and their insertion will much oblige the writer.

Extract from a letter of Mr. Ed. Fullager of Devoe's Point, Westchester co. N. Y. He says:—"I have seen its good effects on flowers and hot house plants, but more particularly on melons. I planted water melons in rather poor gravelly soil in 1841, by digging holes 18 inches in diameter, and put one quart of poudrette in each hill, well mixed with the earth; when the plants came up, I put another pint to each hill, and spread it over about three feet diameter, hoeing it well in. The vines grew vigorously, and on a space of three square rods of ground, I gathered 63 melons, weighing from 30 to 40 lbs. each. I gave my neighbor some of the same seed, who planted it, by mixing a shovel full of good yard manure to each hill—the soil being the same as mine—and the largest melon raised by him, did not weigh over 18 lbs. When he discovered the difference, and the *cause*, he made up his mind to take a share of stock in your company, which he did, and is well satisfied with his bargain."

Extract of a letter from Mr. Edward Condict of Morristown, N. J. He says:—"In 1841, I planted a field of corn, on about one-third part of which I used poudrette, a small handful, rather less than a gill to the hill. The other part of the field was manured with good barn yard manure, a shovel full to the hill; the corn was planted about the 10th of May, and by the 20th of June, when the corn was dressed out the second time, the part where the poudrette was used, was more than as large again as on the other part of the field; it also ripened a week or ten days earlier than the other. There was no perceptible difference in the yield. I also used it with good effect on buckwheat, potatoes, and turneps: particularly the latter. In order to ascertain its effects on turneps, I sowed a strip in the middle of the piece, mixing the seed and poudrette together, sowing it broadcast; the effect was very perceptible; the turneps were *larger* and fairer, and were not disturbed by grasshoppers, or any other insect. The soil on which it was used was light, inclined to sand, or gravel. Early in October, 1841, I used poudrette on a loamy soil, somewhat inclining to clay, which I had prepared for wheat; on about one-fourth part of it, after the wheat was sown, poudrette, at the rate of 20 bushels to the acre, was sown broadcast, and the result on harvesting, that part where the poudrette was put is much the heaviest grain, and but very little injured by rust or mildew, while the *other* part of the field is considerably injured. I am so well pleased with the poudrette, that I shall in future discontinue the use of barn-yard manure in the hill for corn."

Other extracts might be given from letters written by gentlemen residing on Long Island, in Connecticut, and other states, but the foregoing may be sufficient to induce many others to desire to test its fertilizing properties, when they know where and how it may be obtained. Will you therefore allow me to say that it can be had in any quantity, at the rate of $5.00 for three barrels, or $15.00 for ten barrels, delivered on board of vessel in this city. Orders enclosing the cash, to be addressed to D. K. Minor, 118 Nassau st.

New-York, Jan. 25, 1842.

IMPORTATION OF WOOL.

Messrs. Editors—In your Cultivator for January, p. 17, there is an article by Mr. S. W. Jewett, on the importation of coarse wool, &c.

The table given by Mr. J. of amount of such wool imported, I shall admit to be correct; but I think the general tenor of his deduction from the fact is erroneous. Mr. J. supposes, that if such a duty were levied on this wool as would prevent its importation, our wool growers would have to supply our manufacturers with an equal quantity of domestic growth. Were there a probability of such a result, I would warmly advocate a prohibitory duty; but if such a duty should destroy all those manufacturers now engaged in its consumption, and with it the consumption of five millions of pounds of the lower qualities of American wool, then I think such a policy would be suicidal. Having some knowledge on this subject, I will endeavor to show our farmers how destructive to their interest would be the measure suggested by Mr. Jewett.

I have been directly and indirectly engaged in the woolen manufacture of this country for more than thirty-two years, and have promoted that interest as far as laid in my power; how effectively, I shall leave those engaged in that branch to decide.

The consumption of low priced foreign wool is mostly confined to carpets, crumb cloths, baizes, Kentucky janes, coarse blankets, satinets, &c. In working up such goods, the warps, with the exception of janes and satinets, are made of American wool, fully equal to one-third, and the filling of foreign wool. These goods have fallen fully fifty per cent since our manufactures have competed with the foreign, and very many of our manufacturers have already fallen under the competition; the best of them can now barely make a living by their business, and a duty of four cents per pound would ruin them in toto. Before the coarse wool was imported duty free, most of the goods now made from it were imported, and our citizens will have again to depend on importation, if a protective duty be levied.

By the destruction of this branch of manufacture, one hundred thousand families would lose their support, and be compelled to resort to agriculture for a living; instead of being consumers they would become producers. Our sarmers would thereby lose a market for five millions of pounds of American wool, and our shipping interest would lose foreign freight to the amount of fifteen thousand tons per annum. Wm. Partridge.

DOMESTIC FOWLS.

Messrs. Editors—A subscriber in your last September number, wishes to know where some Dorking fowls can be found; and another in your October number inquires for Poland fowls. I would state in reply, that I have a few of the Dorking breed, but can spare none this year. Of the pure blooded Poland breed, I have about three dozen, and can spare a part if they are wanted. Though I have for some years been somewhat of an amateur in breeding and experimenting upon fowls, yet I never thought of breeding them to sell. But an article of mine in your June number of last year, signed H. A. P. occasioned some communications to be sent to our Post Master, requesting him to ascertain the writer of the article, and a request for me to send some Poland fowls to different parts of the country, which I have done agreeably to request. That the P. M. may be no more troubled by such communications, I now give my name and residence. The price of my Poland fowls will be $1 each, or six for $5, put up in a suitable coop and delivered on board of any vessel or boat sailing from this city. Any orders from abroad may be supplied on the first opening of navigation in the spring.

Of the qualities of the Dorking breed, I cannot speak from experience; but shall endeavor to test them during the coming year. Nearly all the other varieties known in our country, I have tried, but have found nothing comparable yet to the Poland, either for beauty or profit.

Buffalo, N. Y. Feb. 15, 1843. H. A. Parsons.

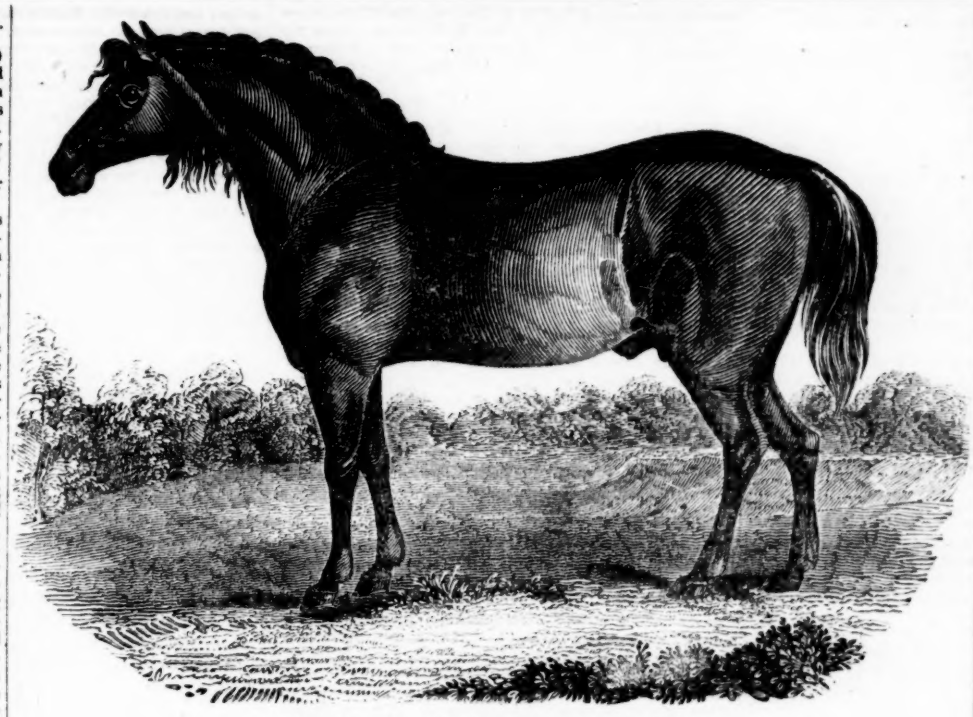
WATER FOR STOCK.

Messrs. Editors—Having, for many years been in the practice of leading my horses a considerable distance to water, I began to cast about, for some method of supplying this indispensable article, with less inconvenience. There being no running water, or spring, that could be conducted to the premises, without great expense, I resolved to dig a well, in a corner of the barn yard. The work was completed in less than three days; a sweep then erected, and now, instead of the distance formerly gone over, I have a good watering place, within two rods of my barn. Had this been done, when the barn was built, more than 1,500 miles travel would have been saved. I hope, Messrs. Editors, that none of your numerous readers, who may be similarly located, have been thus negligent, or irresolute, as myself; but if there be a solitary case like mine, let me just say to that individual, *resolve to have a well* near your barn; and almost before you are aware of it, the work is done.

Clinton, N. Y. Feb. 1843. G. Butler

THE CLEVELAND BAY.

THE annexed figure (25,) is a portrait of a Cleveland Bay stallion, copied from Low's Illustrations. This breed of horses, says Prof. Low, "has been formed by the progressive mixture of the blood of horses of higher breeding, with those of the common race. It is termed Bay, from the prevailing color, derived from approximation to the superior races, and Cleveland, from the fertile district of that name situated in the North Riding of Yorkshire on the Tees. About the middle of last century, this district became known for the breeding of a superior class of powerful horses, which, with the gradual disuse of the heavy old Coach Horse, became in request for coaches, chariots, and like carriages. The breed, however, is not now confined to the district of Cleveland, but is cultivated thro'-out all the great breeding district of this part of England, although Cleveland yet preserves its pre-eminence, and supplies with stallions the parts of the kingdom where superior Coach Horses are reared.



THE CLEVELAND BAY HORSE.—(Fig. 25.)

"The true Cleveland Bay may be justly termed a breed, from the similitude of characters presented by the individuals of the stock. It has been formed by the same means as the Hunter, namely, by the progressive mixture of the blood of the Race Horse with the original breeds of the country. But a larger kind of horse has been used as the basis, and a larger standard adopted by the breeder. By coupling a Race Horse with a Draught Mare, an animal will be produced partaking of the properties of both parents, and which may be employed as a Coach Horse. But the results, as was before observed, of such a mixture are uncertain, and the progeny will probably be wanting in just proportion of parts. Many Carriage Horses are doubtless produced in this manner, but many of them, if their history were told, have been found to be worthless. To rear this class of Horses, the same principles of breeding should be applied as to the rearing of the Race Horse himself. A class of mares, as well as of stallions, should be used having the properties sought for. It is in this way only, that we can form and perpetuate a true breed in which the properties of the parents shall be reproduced in their descendants. The district of Cleveland doubtless owed the superiority which it continued to maintain in the production of this beautiful race of horses to the possession of a definite breed, formed not by accidental mixture but by continued cultivation."

FARMERS, SOW GRASS SEED.

MESSRS. GAYLORD & TUCKER—This important branch of farming has been too much neglected by most of our farmers. The almost total neglect to sow grass seed upon our lands, has caused them to run down at so low a rate, that few cattle could be kept, and consequently the fertility of our lands has rapidly diminished. The free use of clover and plaster, has raised many poor, worn out farms, and that too, at a cheaper rate than by the use of stable and other manures. It has been remarked by many farmers, that if they can once get clover to grow on their lands, then they can raise any other crop; and this we firmly believe. Many farmers, when they sow clover seed, sift it out as though they were sowing "gold dust," with the thumb and finger. Old farmers used to say, that when you sowed your turnep field, you must leave your seed at home; but this "old maxim" will not hold good with regard to sowing grass seed. A certain farmer has remarked, that when we sow grass seed, instead of sifting it out with the thumb and finger, it should be sown out of the tail end of the cart, with a shovel. The idea to be conveyed is, that it should be sown with a liberal hand, and of this fact, every farmer must be convinced on trial; as when it is sown thinly, the plants come up scattering, and in nine cases out of ten, the weeds will overrun the whole. There is a difference of opinion among farmers, with regard to the best time for sowing grass seed; however, we would recommend sowing in the spring, with your oat and barley crops; and in the summer, with your buckwheat crop; and also, in the fall with your rye and wheat crops. Sowing in this way, we shall be likely to hit right, either at one time or another, as the case may be; always recollecting, that when we leave a piece of ground, at any season of the year, to put on the seed, and especially clover seed. It is a very good time to sow clover, on winter grain in March, on a light snow, as we have found that it takes very well, when sown at that time. L. DURAND.

Derby, Conn. Jan. 31 1843

WATER POWER CHURN

EDITORS OF THE CULTIVATOR—I have but just read the inquiry asking of me a description of a wheel, connected with the power churn described at p. 167, vol. 9. There are two kinds of wheels that may be used, both of which are economical. The common saw mill or flutter-wheel, and the tight bucket wheel. Where the stream is large, and the supply of water abundant at all times, the flutter wheel would be preferred, as the cost of its construction is less, and no geering is required; but when the stream is small, or in the dry season becomes very low, the tight bucket wheel should be used. Where there would be a fall of two and a half feet, should it be necessary to use the last mentioned kind of wheel, make it two feet in diameter, three feet wide, with a rim two and a half inches deep; the buckets should be about two and a half inches apart, and put in with such an inclination to the lining as would prevent the water from emptying out too soon, which I should think would be something less than 45°. There will be wanted, for a shaft to a wheel of the above dimensions, one four feet long and one foot square, (or make it eight sided if you please,) with an iron rod running through it, and extending two or three inches beyond on each side, as a gudgeon, which will prevent it ever working loose. Four arms will be sufficient for each rim, which in that case will be made of quarters, and care should be taken to have them (the rims,) as little cross grained as possible. A wheel of this size, when running at proper speed, (which philosophy dictates should be slow to get the greatest amount of benefit from a given quantity of water,) will require gearing to give the proper motion to the churn dash. The casting that will be required, will be a cog rim about the size of the rim of the wheel, to be attached to it, and a cog wheel of a foot in diameter, so cast as to have a nob near the rim on one of the spokes, to attach the upright to the horizontal of the frame work of the wires. The rise and fall of the dash will be affected at three places in the construction. First, the distance the nob is from the center of the cast iron wheel; next, by the length of the horizontal of the frame work at the stream, and by the corresponding horizontal of the frame work at the house. This last may be perforated with holes, that will serve to increase or lessen the motion, as required. The reason that I do not give the length of the different parts of the frame work, is because I have forgotten the proportions of the one of which I superintended the construction. Select large sized wire. To the other part of the inquiry, I would answer that a considerable elevation or depression would not hinder its operation, and that it will work at a much greater distance than 160 yards. Pulleys, by all means, should be used. I forgot to mention that if a flutter wheel is used, the crank is attached to the end of the gudgeon.

Waterford, Oakland co. Mich. Dec. 1842. G. COOK.

WILD TURKIES.

MESSRS. EDITORS—Ever since Gen. La Fayette was in this country, and expressed a wisn to obtain some wild turkies to take with him to France, I have felt an interest in this kind of poultry. When I came to this state in 1835, I made up my mind that I would endeavour to obtain and domesticate some of them as soon as I could. Upon inquiry, I learned that occasionally a nest of eggs was found and put under hens to be hatched out, and the young ones killed in the following winter, under an apprehension that they would run off in the spring. In 1837, a nest of eight eggs was found, which I purchased. These I set under a hen, and all were hatched out. A difficulty now occurred. The young turkies paid no attention to the hen's cluck—were disposed to wander about, and make the hen follow them, instead of their following the hen. In this way, they were in danger of being lost, and some of them were lost in consequence of going further from the house than the hen was disposed to follow. Of the eight, I succeeding in raising but one, though I believe none of them died a natural death. This one kept company with the hens, and roosted with them, till by repeated alarms from vermin, he forsook the hen house and took the roof of a stable for a roosting place. This proved to be a cock, but it was not till he was more than eighteen months old that he began to strut and gobble. In a very windy time, he would leave his roosting place, and go into the hazle bushes which were near by, to lodge. On one of these occasions he was killed, probably by a prairie wolf, as they were plenty in the neighborhood. This turkey was so thoroughly domesticated, that he would eat corn out of my hand, and showed no more disposition to wander off than my hens.

The last year a wild turkey's nest was found in the neighborhood, and I obtained seven of the eggs and set them under a hen. Six of them hatched, and I made a yard on a grass plat for them, by setting up boards edgeways, in a square form, and one tier high, where I kept them confined till they became attached to the hen, and then let them run at large. I took some pains to have them run in the garden to keep the vines clear from bugs, which they did effectually, without doing any damage to the vegetables. My place, as I keep no dogs for the protection of poultry, is beset with what our sucker folks call the *wild varmints*, such as weasels, skunks, minks, racoons, and prairie wolves, so that I succeeded in raising but three out of the six. These I valued very highly, and thought them out of danger, when a hunter came along and seeing them a little distance from the house, shot two of them, so that my stock is reduced to one solitary hen.

My own experiments in rearing wild turkies, go no further, but I know of the results of the experiments of persons of my acquaintance in this county, some of which I will give. A family in a small grove, had a pair of wild turkeys; the hen when a year old, laid a nest of eggs, but none of them hatched; a season after this she raised a litter of young ones, which after getting their growth, with the old ones in company, left the grove, and never returned. Another family had a pair; the hen got accidentally killed when about a year old, and the gobbler kept company and roosted with the fowls. The next spring the owner procured two tame hen turkeys, and succeeded in raising 28 half bloods. A neighbor had a wild gobbler domesticated, one year old, and two tame hen turkeys. That season not an egg hatched; the next season, from one of the hens, the other having died, he raised fourteen or fifteen half bloods. The gobblers (unlike the tame in that respect,) it seems do not come to maturity till they are two years old. The half blooded turkeys bear a greater resemblance to the wild than they do to the tame, and will breed equally well.

Although my attempts at rearing wild turkeys have been so unsuccessful, I am not discouraged, but intend to persevere in the effort a while longer; I believe that it will be some little object to raise the full and half bloods here, but much more of an object to raise them in your neighborhood, for the city market. The reason why they would have a preference over the tame turkey, is, 1st. That they are larger; one was killed about ten miles from me, which weighed 24 pounds; and I have heard of their being killed in Ohio, one at least, which weighed rising 30 pounds. 2d. They are more robust, will bear the rain and wet grass, and therefore more easily raised than the common turkey. 3d. They are hunters of flies, bugs, and other insects, and eat much less corn or meal than other poultry, and of course more profitable.

They are a more beautiful fowl than the tame turkey. Their color being brown or snuff, with feathers having a lustre or brilliancy upon them, in some degree like the peacock. There are at present, within five miles of me, five full blooded wild turkies. If the gobblers were in your part of the country, I should think them better worth $50 a piece, to run with a flock of tame hens, than some imported animals are worth the prices they have brought.

Rockvale, Ill. Jan. 28, 1843. S.

CULTURE OF INDIAN CORN IN OHIO.

MESSRS. GAYLORD & TUCKER—I wish to make a few remarks on the culture of Indian Corn, and also the importance of improving the seed. Sometime in March last, while in conversation with several of my neighbors on the subject of Agriculture, and the importance of forming an Agricultural Society in our county, one of them bantered me to compete with him for five dollars on the best acre of corn, without manure; agreed, said I, but I would prefer manuring. He objected, no doubt supposing he had the strongest land. What kind of seed will you plant, said he. The yellow, the same I had planted for many years. Perhaps it is better than mine, said he. If so, I'll profit by it. Where did you get it, said he. I made it. Will you furnish me with seed to plant my acre? I answered in the negative. Why not? It would not be a fair way to test our skill in agriculture.

One of my fields included a part of a pond, the soil of which was a deposite of decomposed vegetable matter, but was considered worthless by many, in consequence of stagnant water that covered it three-fourths of the year. I cut a ditch lengthwise of the pond, and drawed off the surface water, and then laid off the field in lands precisely two rods wide, crosswise of the main ditch, broke up the lands as deep as I could, harrowed well, let it lie two weeks; plowed again precisely as before, taking care both times, to throw out as much dirt as possible, with the finishing furrows, and where the plow failed to throw the dirt out deep enough, I used the hoe; that left the field throwed up into beds two rods wide, separated by ditches about fourteen inches deep, running across the main ditch; harrowed lengthwise of lands, laid off eight furrows to each land, lengthwise of course, which made the rows precisely four feet wide, except the eighth row, which was five feet of course, and came at the ditch; so every eighth row covered the ditch, and being five feet wide, gave a free circulation of air, a very essential thing with our large varieties of corn. I then laid the ground off in lands five rods wide the other way, and there left open spaces also for the air to circulate at right angles with the rows. Planted in drills, middle of April, one stalk in a hill, from ten to twelve inches apart. As soon as the corn made its appearance, went through it with a very narrow toothed cultivator, close to the corn; then raked through the hills with a pronged hoe, with four prongs, similar to the tines of a pitch fork. This left the earth as mellow as ashes, about the corn. Seven days after first cultivating, passed the cultivator through again; then hoed as before and thinned; next week, cultivator again; next week run the shovel plow as deep as possible; next week, cultivator; next week, run the shovel plow as deep as before; ten days after, passed the cultivator for the last time, taking care to hold up the side next the row, to prevent injuring the lateral roots. The corn was then from 8 to 10 feet high, and of the most luxuriant growth I ever saw. On the 19th of July, we had a tremendous hail storm; it prostrated nearly all the corn for miles up and down the river; the oats and grass that was not cut, as well as the corn, presented the appearance of a field that had just been rolled all one way. My corn was then 12 feet high, and not one stalk out of 100, showed its tassels; a great deal of it was broken off, and still more turned out by the roots, and a great deal that was bent down, was too heavy to rise, and rotted in piles.

In October, I wrote a few lines to my competitor, stating that our corn was ripe, and it was time to appoint a committee to measure the corn and ground; or if he preferred, we would lay it over till next year, 1843, and try it over again. He wrote back, he would prefer laying it over.

Now what I want is, for some one to inform me how to improve on my manner of cultivation. Would I have made more corn, had I quit working when the corn was 3 feet high? Did I plant it too thick or too thin? Were those wide spaces or ventilators, beneficial or detrimental?

Had I not abundant testimony to prove the following statements, I never would publish them, knowing how hard it is to make people believe we can raise more corn now, than our fathers could forty years ago. Roman Minage, an excellent farmer of Mercer's Bottom, Mason co., Va., heard of my corn, and came down 20 miles to see it. He went into the middle of the field, laid down a rod pole by the row, gathered and shelled in a half bushel the length of pole, carried to house, measured half bushel with square, found it to be three-fourths full, shook down measure; after reserving one stalk that I would not have shelled, it producing five good sound ears, measuring four feet, save one inch, running measure. Shelled the five ears this day; product three pints corn perfectly kiln dried, and numbered 3,940 grains; product of one grain. The rod measured, had but one stalk broken down. I measured one-fourth of a square rod at a different part of the field, that gave at the rate of 233 bushels to the acre. We measured a square rod at the side of the field, on ground that has been under cultivation 20 years, without manure, but laid idle four or five years, had obtained a good sward, yield one bushel and ten quarts, or 210 bushels to the acre; 17 stalks broken down. I have been persuaded in my own mind for a number of years, that my corn would yield an average of one pint to the stalk, provided the ground was in the highest state of cultivation. I will give an extract of a calculation I made a year ago, viz: Corn planted four feet one way and one the other, makes 68 stalks to square rod; if they produce one pint each, will be 170 bushels per acre; 4 feet by 10 inches makes 82 stalks per rod, 204 bushels per acre; 4 feet by 8 inches makes 102 stalks per rod, product 255 bushels per acre. I have realized what I layed it at when planting, where it was not injured by the storm. H. N. GILLET.

Evergreens Farm, Lawrence co., O., Jan. 23, 1843.

N. B. I meant to have said something on the subject of improving seed corn, but time and space fails.

Veterinary Department.

DISEASE OF THE SKIN OF CATTLE.

"MESSRS. EDITORS—About three months since, I noticed that some of my cattle had lost or rubbed the hair off around their eyes; and ever since, it has been spreading from the youngest to the oldest. Some have spots under their ears; and the skin looks scabby or scaley, something like a large seed wart of a whitish color; some are bare on their legs, and others on their forehead. There does not appear to be any itching, at least I have never seen them rubbing the part affected. If you know any thing respecting the disease, and can prescribe a cure, you will much oblige, Yours, &c. W. L."

The disease spoken of by our correspondent, belongs to that class of affections of the skin, usually called the mange, by veterinarians, or that kind of it known as the *angle berry*, from its frequently assuming a warty appearance, in addition to the usual scurfiness of the skin, characteristic of mange. The cause does not appear to be well understood, as the disease occasionally shows itself at all seasons of the year, though most frequently in the fall and winter months. Checked perspiration probably has its influence, and all those causes that produce scurfiness, or a bad condition of the skin, doubtless contribute to the result. Simple mange, or when the skin is scurfy, the hair comes off in spots and there is much itching, is frequently cured by rubbing in common sulphur ointment, made of sulphur and lard. In more advanced stages, when the skin is cracked, &c., an ointment prepared of 1 lb. sulphur, 4 ounces common turpentine, 2 ounces mercurial ointment, (unguentum,) and linseed oil one pint, will cure. The oil must be warmed, and the turpentine melted in it; then partially cooled and the sulphur stirred in, and when cool, the mercurial ointment is added, and well rubbed together with the other ingredients. This preparation rubbed in on the places affected, by the hand, will speedily check the disease. When there is little itching, but a tendency to form a warty surface, camphorated oil is a good remedy; and will generally effect a cure, if carefully rubbed over the scabby parts of the skin. A few applications of spirits of turpentine, will also, in most cases, remove the disease completely. If warts appear on parts where they are troublesome to the animals, they may be cut off with a silk or india rubber thread, drawn tight around the smallest part; or it may be cut off at once with a knife, and the part cauterized or touched with a hot iron, to prevent bleeding. Mange, in all its forms, is doubtless infectious, and the separation of diseased from healthy animals, should always be practiced. If animals were occasionally fed with a small quantity of sulphur mixed with their food, diseases of the skin would be much less frequent; and as in all such cases of disease, there is more or less derangement of the system, it is advisable to give doses of sulphur to the beast, while making the external applications for the cure. In the treatment of all diseases of the skin, it should be remembered that the earlier the disease is met, the easier is the cure; and that cleanliness is one of the best and surest preventives in all cases of the kind.

"HOLLOW HORN"—"HORN DISTEMPER," &c.

MESSRS. GAYLORD & TUCKER—There is no subject connected with husbandry, on which light is more needed, than on the treatment of diseases of domestic animals. Many die annually from neglect and inattention, and many more from improper management of their diseases. If an animal is sick, and it is thought advisable to make an attempt to cure him, the course frequently taken is to give him all the nostrums of all the bystanders, each prescription being a "perfect cure," though in its nature and composition as opposite to all the rest as are the poles to each other, and though, perhaps, not one of the advisers has any correct idea of the disorder. I have often been amused at the various specimens of quackery which farmers will suffer to be played off upon them by ignorant cow leeches. Take for instance, many of the thousand prescriptions for curing a disease in cattle, called "horn ail," "hollow horn," &c. Some "certain cure," or prevention for this disease, is almost every day being brought before the public. I have just taken up a paper in which some "down east" empiric declares that cutting off a part of the tail, and splitting several inches of the remainder, and "tying a piece of onion into it, will effectually cure the horn ail." Sometimes it is said that "painting the horns, or covering them with a coat of pitch or tar," or "putting spirits of turpentine or tar on the top of the head, and round the roots of the horns, is an infallible prevention."

All such prescriptions, indicate an ignorance of the pathology of the disease to which they refer.

I have no doubt that the disease to which the name of "hollow horn," &c. has been given, (though perhaps improperly,) is a somewhat formidable one, and that it is the *remote*, if not the immediate cause of the death of many cattle annually. It is obvious, that before the most proper treatment of a disease can be pursued, its nature and causes must be fully understood. There is very little information of this kind, in such specifics as are quoted above. What, then, it may be asked, is the nature of the disease under consideration? I answer, an inflammation of the membrane which lines the nostrils, and the sinuses, or cavities of the head and horns. This inflammation sometimes extends itself even to the brain, producing vertigo, &c. and in the more advanced stages of the disease, the whole system becomes more or less deranged, the digestive organs lose their tone, the heart and lungs become affected, and death ensues.

The predisposing causes of this disease, are weakness and debility; frequently produced by poor keeping, and exposure beyond what the animal can endure. In this state of feebleness, the animal is predisposed to disease of every kind; because it has not the constitutional vigor necessary to resist attacks, and bear up under difficulties, and they seize on the system and break it down. Suppose, then, that an animal in the debilitated condition just described, should be exposed to a cold storm, what might reasonably be expected as the consequence? Why, in common parlance, *a bad cold*. The effec s would be analagous to those which are seen and felt in the human species from the same cause. The membrane which lines the nostrils, is inflamed, the nostrils appear to be stopped up, and sometimes a violent pain is felt extending up the internal part of the nose, and over the eye. This shows that the membrane which lines the sinuses, is inflamed throughout the extent to which pain is felt.

These sinuses, or cavities, are common to several species of animals. In cattle there is a continuation of them from the nose almost to the tips of the horns, and in fact, nearly round the upper part of the head. But it is not necessary that an animal should have horns, to have the "*horn distemper;*" for the same disease is seen in hornless cattle, and even man, as has been before stated, is simarly affected.

If these premises are correct, what is the proper treatof "horn distemper?" Anything that will allay inflammation. Bleeding, physicing, together with proper sheltering and feeding. "Cutting off the tail," as some blood would follow, would be likely to do some good; but a better course would be to bleed at the jugular vein, and to regulate the quantity of blood taken, by the degree of fever in the subject. Boring the horns is advisable, for if matter has collected, letting it off, will afford relief. But if the disorder is much advanced, and the viscera affected, boring the horns, or syringing them, will do but little, without other aids, towards effecting a cure. Besides, this "grand specific" cannot be resorted to, in cases where the beast has no horns.

As to the kind of medicines, it may be remarked, that the more simple they are in their nature, the better. In all cases of constipation, the simplest catharties are to be preferred. Castor oil, or glauber salts and molasses, in from five to eight times the quantity usually given to man, will, if taken in season, be generally found sufficiently effective.

It may be observed here, that I have never seen what we call "horn distemper," "horn ail," or "hollow horn," described by any of these names, in English work;. It is briefly noticed in that part of Youatt's work entitled the "Anatomical structure and diseases of Cattle," under the head of "Inflammation of the Frontal Sinuses." [See p. 275, 276.) SANFORD HOWARD.

Zanesville, O., Feb. 1, 1843.

CURE FOR WEAK LOINS IN SWINE, &c.

MESSRS. EDITORS—At page 168, of vol. VII, of the Cultivator, there is an inquiry of J. M. Hudson, of Waylandsburg, (Va.) relative to a disease among swine, described as a weakness of the loins, and inability to rise on the hind legs. This is a disease quite common in this country, and in a residence of ten years here, there has not been a year but some of my swine have had this disease, and yet I have lost but few, none I believe, when the proposed remedy was applied in time.

The remedy I use, is to immediately bleed, by cutting off the tail, and to rub freely tar or spirits of turpentine on the loins, and give them internally, soap or soap suds, which they will drink freely.

I have just butchered my swine, and among the rest, have butchered one which a few months ago was unable to walk, but by using the above remedies was cured, and was as fat as any one in my pen.

CURE FOR SCOURS AND COLIC IN HORSES.—I would also give a remedy which I have often tried with success, for the scours in horses, or sucking colts. A pint of strong coffee, moderately warm, with two or three eggs broken in it, and one gill of flour, all stirred together, and given inwardly by drenching. If the first dose does not effect a cure, it may safely be repeated.

If the above is applied in time, I have never known it fail to produce a speedy cure. Sometime since, I had a fine young horse taken with the colic, and after trying all the remedies usually given in such cases, all those present gave him up for lost; but upon giving him about half an ounce of laudanum, in less than ten minutes he appeared perfectly easy, and got perfectly well.

JOHN M. JOHNSON.

Hannibal, Mo., Dec. 28, 1842.

The British American Cultivator says "that a strong wash made of pearlash and water, applied thrice a day, will remove tumors and warts."

"The poorest of all family goods are indolent females."

The Garden and the Orchard.

THE FLOWER GARDEN.

It has been remarked, that there is hardly a specimen of the modern style of gardening in America, which a European would consider as neatly kept. But neatness obtained at very extravagant expense, can hardly be considered desirable. It is true, that gravel walks, rolled as smooth as a floor; turf, kept by constant shaving, as even as a carpet; flowering plants visible only when in full bloom, by the use of a reserve garden; profuse masses of rare green house plants, occupying open beds during summer;—all these may indeed produce a scene of great brilliancy and beauty, but the employment of half a dozen gardeners for a single acre, with a scientific superintendent, hardly accords with the republican simplicity which should always govern us. What therefore we have to retrench in labor and money, we should expend in study and thought, and much may still be accomplished. We should adopt the motto of Downing, "Profuse in genius, not profuse with gold."

Figure 26, is an isometrical view of a flower garden, laid out in the modern style; which admits of almost an infinitely greater variety, and a much more extensive field for the exercise of the invention, than the geometrical style. At the same time, the desired effect is obtained at less expense. The size of this plan may be varied from a quarter of an acre to two acres or more. The ground allotted, is surrounded with a close plantation of shrubbery and trees, so as to shut out the distant view, except where portions of the surrounding scenery may occasionally be left visible, to add to the expression of the whole. The intermediate space is a smoothly shaven green, near the outskirts of which, there is a gracefully bending gravel walk, bordered by circular, arabesque, and other flower beds. Handsome shrubs and small trees, may be occasionally planted in small groups, so as to interrupt, but not entirely break the view, which will add to the variety and apparent extent of the grounds.

In laying out the curves of the gravel walk, a very convenient method is to provide a number of small sticks, and insert them in the ground at regular distances, varying each, successively, an inch from the straight line. They will thus form a very regular curve; and a short curve may be made to pass gradually into a longer, by gradually increasing the distance of those sticks.

As a general rule, no part of the walk should be seen; except that directly before us; the distant portions are concealed by flower beds, shrubs, or intervening higher ground, as the case requires.

Circular and elliptical flower beds are made, and the boundary kept with precision, more easily than any others with a curved outline; hence they are largely introduced in the accompanying plan. They should have the tallest plants in the center, and those of successively decreasing height towards the circumference. They may be of mixed flowers of various colors, planted hexagonally; or in concentric circles, or belts; or in masses of one color. A portion of each of these kinds of flower beds, tastefully intermixed, would add to the variety of the garden. Flowers arranged in a bed by intermixing opposite colors, give an expression of *brilliancy*; while those of similar colors, varying only in shade, arranged in belts or masses, are distinguished for *richness* of appearance.

To enable the cultivator of flowers to arrange them to advantage, requires an intimate knowledge of the plants, their height, color, and season of flowering, which can be properly attained only by experience. The experience of others, however, often affords essential aid; and to contribute to this end, a list of some handsome flowering plants, most of which are easily obtained either in our forests, nurseries, or private gardens, and the times at which they flower in Western New-York, are here given. The time will of course be influenced by the season, by the fertility of the soil, and by the situation. This list is nearly the average of several years observation of plants in the open air, remote from shelter. The earliest continue generally only a few days; those later, often extend through two or three months; where the latter is the case, their first appearance is noted. They are nearly all perennial rooted, a few are biennial. The numbers designate the height, which will of course vary with the cultivation; those marked 1, are lowest, being only a few inches high, and are mostly adapted to edging; those marked 4, are more than two feet high; the others are intermediate. Nearly all are acknowledged to be decidedly handsome, and some very splendid.

Flowering early part of 4th month.—April.

1. Galanthus nivalis, (snow drop,) white.
1. Crocus, white, purple, striped with purple, yellow, golden.
1. Eranthus hyemalis, yellow.
1. Viola tricolor, (pansy,) dark purple and yellow.
1. Hepatica triloba, white, pink, pale purple. Native, common.
1. Claytonia virginica, light red striped. Native, com'n.
1. Scilla siberica, (Syberian squill,) fine blue.
2. Iris persica, (Persian iris,) variegated, purple and yellow.
1. Primula veris, (Cowslip, &c.) many varieties and colors, yellow, orange, lilac, red, purple.
1. Bulbocodium vernum, pale red.
2. Hyacinthus orientalis, (hyacinth,) blue, red, pink, white.

Isometrical View of a Flower Garden.—(Fig. 26.)

Flowering latter part of 4th month.

2. Sanguinaria canadensis, (blood root,) white. Native, common.
2. Anemone thalictroides, white. Native.
2. Corydalis cucularia, white. Native, common.
2. Erythronium lanceolatum, (yellow.) Native, common. E. dens-canis, purple.
2. Collinsia verna, blue and white parti-color. Brilliant in masses.
1. Houstonia cærulea, light blue. Native.
2. Phlox stolonifera, red.
2. Narcissus, several species and varieties, white, yellowish white, and yellow.
2. Iris pumila, blue.
1. Viola odorata, (sweet violet,) blue.
3. Tulipa gesneriana, (tulip,) red, yellow, white, endlessly variegated.
3. Fritillaria imperialis, (crown imperial,) reddish orange. F. meleagris, variegated.
1. Vinca minor, (periwinkle,) blue. Running stem.
1. Houstonia ciliolata, white.
2. Caltha palustris, yellow. Native, common.
3. Pulmonaria virginica, light blue. Native.

Early part of 5th month.—May.

3. Aquilegea canadensis, yellow and reddish orange. Native.
2. Phlox divaricata, white, shaded with blue and purple. Native.
1. Phlox subulata, (moss pink,) red. Very showy in masses.
1. Phlox setacea, red, white.
2. Vinca major, (large periwinkle,) blue. Running stem.
1. Primula auricula, (auricula,) purple, yellow, and red, combined.
3. Delphinium tricorne, blue.
2. Silene pennsylvanica, red.
2. Dodecatheon meadia, reddish purple, white.
3. Corydalis glauca, purple and yellow.
1. Statice armeria, light red.
3. Veronica spicata, blue.
3. Polemonium cæruleum, blue.
2. Convallaria majalis, (lilly of the valley,) white.

Latter part of 5th month— May.

2. Trillium grandiflorum, white. Native.
3. Aquilegea vulgaris, purple.
3. Veronica gentianoides, blue.
2. Geranium sanguineum, red.
3. Baptisia cærulea, blue.
2. Trollius, europeus, yellow.
4. Iris, many species, several blue and purple, some yellow, mottled, white.
2. Amaryllus formosissima, dark crimson.
3. Phlox ovata, pale red.
3. Pæonia tenuifolia, crimson.
4. Pæonia albiflora, white;—var. *Whitleii*, pale pink;—var. *Humei*, rose;—var. *Fragrans*, red, all splendid.

Sixth month.—June.

3. Dictamnus fraxinella, white, reddish purple.
3. Phlox maculata, fine red.
4. Hemerocallis flava, (day lily,) yellow.
2. Lupinus perennis, (lupin,) blue.
4. Lilium bulbiforum, (orange lily,) orange.
3. Pentstemon pubescens, light purple. Native.
3. Digitalis purpurea, purple.
4. Spirœa aruncus, white. S. filipendula, white.
4. Papaver orientale, orange red.
4. Papaver bracteatum, dark crimson, large, splendid.
3. Delphinium chinense, (Chinese larkspur,) blue.
4. Clematis erecta, white.
3. Campanula persicifolia, blue, white. Splendid in masses and mixed.
3. Lilium philadelphicum, orange. Native.
3. Lythrum salicaria, purple.
2. Campanula grandiflora, blue.
3. Orchis fimbriata, reddish purple. Native.
3. Cypripedium spectabile, light purple. C. pubescens, yellow. Native.
2. Corydalis formosa, red.
3. Aconitum napellus, blue.
4. Gladiolus communus, red purple.

Seventh month.—July.

3. Coreopsis lanceolata, yellow.
3. Spirœa ulmaria, white. S. lobata, red.
4. Lilium canadense, orange. Native.
4. ——— cadidum, white, (white lily.)
3. Chelone barbata, red orange.
4. Catananche cœrulea, blue.
2. Spigelia marilandica, red.
3. Spirœa lobata, red.
2. Campanula carpatica, blue.
4. Monarda didyma, scarlet. Native.
4. Phlox paniculata, light red.
4. Yucca flaccida, white.
4. Nuttalia digitata, purple.
4. Liatris spicata. L. scariosa, purple.
2. Lobelia cardinalis, brilliant scarlet. Native.
3. Campanula trachelium, blue.
4. Lathyrus latifolius, (perennial pea,) purple.

Eighth month.—August.

4. Ixia chinensis, orange.
3. Cassia chamœchrista, yellow.
4. Cassia marilandica, orange yellow.
3. Dracocephalum virginianum, red purple.
4. Lilium tigrinum, (tiger lily,) red orange.
3. Lobelia siphilitica, blue. Native, common.
3. Ageratum mexicanum, purple.
4. Epilobium spicatum, purple.

Ninth month.—September.

4. Hibiscus palustris, rose red.
4. Aster novæ-angliæ, blue purple, splendid in masses. Native.
2. Gentiana saponaria, blue. G. crinita, (fringed gentian,) light blue. Native.
2. Gypsophila repens, white.
2. Eupatorium cœlestinum, purple.

By a proper alternation in the same bed, of those plants which flower successively, a constant bloom may be obtained through the season.

For the sake of economy, all the plants should be placed in regular rows in the beds, either in circles, hexagons, or squares. This arrangement admits of cleaning with a light hoe and rake, with one quarter of the labor of hand weeding.

J. J. Thomas.

Macedon, 2d mo. 1843.

GOOD FRUIT.

Farmer, have you good fruit in your orchard? If not, remember that March is a good month to cut cions, prepare wax for grafting, and make preparations to secure a supply of good fruit for the future. In operating on large trees, it is a very good plan to cut or prune off some of the largest branches, always leaving a few to shade the trunk of the tree, with such branches as will be wanted to form a good head to the same. From these will spring thrifty vigorous shoots, which may be grafted or inoculated with little danger of failure, which will not always be the case, where grafts are set on large branches. Pruning may be performed in March, although we prefer to have it done in July, for the reason that the wounds made will be sooner covered, and long exposure to the weather prevented. It is a common, but a bad practice, to prune trees only at intervals of many years. This renders it necessary to divide large branches, and such wounds before they are healed over, are apt to leave decayed places, fatal to the health of the tree. Frequent pruning avoids this great evil, and enables us to give such a shape to the top, as will best agree with its nature and ensure fine fruit.

PEACH TREES.

Messrs. Gaylord & Tucker—Many old men, not in the habit of committing their thoughts to writing, are possessed of much useful knowledge, which should be gathered up and recorded by their juniors. My grandfather, Ralph Voorhees, of this town, has long been a most successful cultivator of peach and plum trees; and from information derived from him, I select for publication a few hints, together with some particulars obtained from other sources.

Peach stones should be buried in the fall, in dry ground; cover them slightly; freezing is no injury. In the spring dig them up, crack them, but leave the pits within the shells, as this is most according to nature, and so plant them. If the stones are not cracked when planted, they may not vegetate until the second year; and indeed, my informant has known them in one instance, to lie half a dozen years before coming up.

July, though a good time for inoculating plum trees, is too early for the peach. If peach trees are inoculated in this month, every rain causes the wound to send forth a quantity of gum, which becomes hard, and is hurtful to the buds. This evil will be diminished, if the operation is deferred until August, or what is still better, the early part of September. Set the buds on the north side of the tree; the sun will not be so likely to dry them up. Mr. Voorhees still adheres to the old notion, that the bark separates more readily from the wood at the full moon, and that this, consequently, is the best time for inoculation. Apricot buds may be set on plum trees with success. Such a tree, inoculated about ten years since, is now standing in this vicinity, and is still in thrifty condition. Last year it was loaded with apricots, which sold here in the country, at the rate of $4.00 per bushel.

Peach trees, in this region, are much infested by ants. These insects gnaw the bark, producing a flow of gum; they also gather upon the leaves, cause them to curl up, and turn yellow, thereby hurting the growth of the tree

I should like to hear whether the same plague exists elsewhere.

Urine, thrown frequently around the bodies and roots of the trees, is a powerful stimulant to their growth and preserves them in a great measure from the worm. Mr. Vorhees treated his trees in this manner last year; and among the whole number, consisting of about fifty, but one worm was detected during the season; nor were the ants so troublesome as formerly. Some persons cover the base of the tree with tar, and no doubt it is serviceable against both worms and ants. I believe the ravages of the worm may be prevented in a variety of ways, without resorting to the plan recommended in recent papers, of setting vermifuge plants, as tansy or wormwood, around the trees. It is worthy of inquiry, whether wormwood used for this purpose, would not be highly prejudicial to the growth of the tree, as this plant is noted for its power of draining the soil of its potash, an ingredient exceedingly useful to fertility. It is better to keep the earth for some distance around the trunk, clear of weeds, grass, and all living plants; and when young trees are set out, the ground should be kept under cultivation several years afterwards; for which purpose, one of the crops best adapted, is potatoes.

A. R. McCORD.

La Grange, Dutchess co., N. Y. Feb. 1, 1843.

GRAFTING SCIONS, &c.

MESSRS. EDITORS—As the season for grafting is near at hand, I will, with your consent, relate to your readers my small experience in this business. Though much has been written upon this subject, there may be some useful hints given yet.

I usually cut my scions sometime in the month of March, or before the buds have become swollen by the summer's heat. Select the most thrifty and vigorous shoots of the last year's growth, and cut them off a little below the circle where it commenced; tie them in bunches and affix their proper labels. Select also a dry piece of ground and dig a hole 2 or 3 feet deep, and wide enough to admit of the scions freely. Place pieces of boards upon the bottom, and around the sides of the pit, to prevent the scions from coming in contact with the earth. Cover the hole with a good sound board, then draw the earth over the top in the form of a mound, so as to have the center of about one foot in thickness. Boards are thrown over the whole, to prevent the rains from entering the pit and injuring the scions. Kept in this manner, I have never failed of having good success, when they were set at the right time. Many writers direct them to be set in April, but I never have had them do as well when set so early, owing to cold and chilly weather which frequently occurs, and checks supply of sap, and the scion dies for the want of nourishment. I think the best time for setting, is a short time before the trees begin to blossom, as the sap is then in full and steady circulation. A small quantity of wax spread upon the top of the scion will prevent the moisture from escaping, and the union will take place more speedily.

Have any of your readers ever tried the experiment of grafting the cherry upon wild stocks? I purchased several trees of this description of a gentleman who says, that "the wild stock is more hardy and better to graft upon than the cultivated kinds;" and I think he is right, for I saw some very large and thrifty trees, which have borne good crops and have all the appearance of living to a "good old age." Yours, &c.

LAWRENCE SMITH.

Middlefield, Mass. Feb. 14, 1843.

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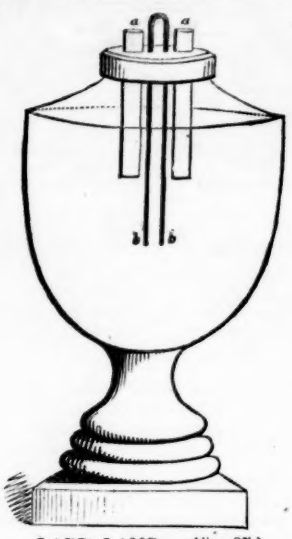
STATE AGRICULTURAL DEPOT.

MOWRY & VAIL have opened a large ware room at No. 127 River street, Troy, N. Y. for the reception and sale on commission, of all kinds of Agricultural Implements, and would take this opportunity to invite manufacturers of such articles, to give them a share of their consignments. They will also keep on hand at all times, an extensive assortment of various kinds of Seeds. They are the agents for the sale of Langdon's Horse Hoe, or Plow Cultivator, and are prepared to execute orders for them to almost any extent.

References.—George Vail, Esq. and Hon. Jonas C. Heartt, Troy; C. N. Bement, Esq. Albany. *Feb.* 24, 1843.

Domestic Economy.



LARD LAMP.—(Fig. 27.)

MESSRS. GAYLORD & TUCKER—We are learning something from the pressure of necessity. I have within the last month, ascertained from actual experience, that there is no need of separating lard into oleine and stearine for lights. The lard itself, simply melted and poured into lamps either of metal or glass, answers perfectly, if there be two tubes for the wicks, of copper, two inches long; and between these, a copper wire of the size of a small goose quill, bent in the form of a staple, be inserted through two holes, so that the ends will nearly reach the bottom of the oil, and the bent part of the staple remain half an inch above the top of the tubes for the wicks. When lard is five cents a pound, one cent's worth, with such a lamp, will give you a good light from 6 to 11 o'clock, or for 5 hours. *a, a,* tubes for the wicks; *b, b,* the lower ends of the staple. The metalic arms of an old umbrella, answer very well for staples. The only precaution in their use, is when you extinguish your lamp at night, to raise the wick an inch, so that the cold lard in the bottom of the lamp, may not pull them too low when the top is unscrewed to replenish them. I have bored holes for staples, and fixed all my lamps in this way. The best candles do not give a better light.

Very truly, your ob't serv't, JOHN LEWIS.

Frankfort, Ky., Dec. 1842.

"SCOTCH DRINK."—Before closing, permit me to return my thanks, to E. Cornell, of Ithaca, for his notice of the "Scotch Drink," in the September number of the Cultivator; and we can assure Mr. Cornell, that so far as the oat meal, being injurious in its raw state, in water we find it to be one of the best drinks for harvests, that we ever tried; and it was preferred by most of our workmen. One of our workmen, however, remarked that he thought it would be still better, if the oat meal was dried, and browned over the fire, before using. We think so too, and intend trying it so, the coming season; and we would recommend to all our farmers, to try the "Scotch Drink," and they will find it to be much better than cider, or any other liquors, for field drink. L. DURAND.

POUDRETTE AS A MANURE,

MAY be had, a superior article, in barrels of four bushels each. This manure has been used extensively on Long Island, in New Jersey, Connecticut, and other states, for several years past, and has been found an excellent fertilizer. A barrel, four bushels, is considered equal in fertilizing properties, to sixty bushels of yard manure, and is peculiarly convenient for garden purposes, as there are no foul seeds in it. Present price, $5, for three barrels, or $15, for ten barrels. Orders containing the cash, will be promptly attended to, if addressed to D. K. MINOR, Agent,

Jan. 25. 3t. 118 Nassau st. New-York.

17 Shares in the company may be had at $110, which will entitle the holder to one hundred bushels a year, for 16 years.

ISABELLA GRAPE VINES,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over ten years has conferred on the vineyards at Croton Point, are now offered to the public. Those who may purchase will receive such instructions as will enable them to cultivate the grape with entire success. (provided their locality is not too far north.) All communications, post paid, addressed to R. T. UNDERHILL, M. D., 400 Broadway, N. Y., will receive attention. He feels quite confident that he has so far ameliorated the character and habits of the grape vines in his vineyards and nurseries, by improved cultivation, pruning, &c that they will generally ripen well and produce good fruit, when planted in most of the northern, all the western, middle and southern states.

New-York, Jan. 25, 1842. 2t.

TOWNLEY'S PATENT PREMIUM BEE HIVES.

INDIVIDUAL rights for constructing and using the above hives, may be obtained for five dollars cash, by addressing the subscriber. All letters to be post paid.

Also for sale, a Treatise on the Cultivation and Management of Honey Bees, by the subscriber, 75 Thompson st., New-York.

Feb. 7, 1843. EDWARD TOWNLEY.

AGRICULTURAL REPOSITORY,

SEED Store, and Wire Cloth Manufactory, 31 Fulton, and 79 Barclay sts., New-York.—Whiting's Wiskonsin Plow, a superior article, Hall's improved Horse Power, and scarfed self-supporting Chain, with side links; with this Power, two horses will do as much as four on the common Lever Horse Power, for two horses; this Power will occupy 4 by 10 feet. Also a general assortment of Farming Utensils and Seeds, Brass, Copper and Iron Wire, Sieves, Safes, Cages, &c.

New-York, Feb. 1843. JOHN MOORE.

RUGGLES, NOURSE & MASON'S SUPERIOR WORCESTER PLOWS.

THE American Institute at their Fair, held at New-York, for the whole Union, and the Massachusetts Charitable Association at their Fair, held at Boston, each awarded to Ruggles, Nourse & Mason, medals for the best and most perfect plows; and at the plowing matches of the Agricultural Society in the justly celebrated agricultural county of Worcester, in 1837, '38, '39, and '40, all the premiums for the best work in the field, were awarded to competitors using Ruggles, Nourse & Mason's plows.

In addition to the above, the New-York State Agricultural Society, at their Fair, held in Albany, in September last, awarded the premium for the best plowing to John Keeler, (see Cultivator, vol. IX, p. 178,) who on that occasion used one of the above plows.

A complete assortment of them, including Side Hill, Subsoil, and Corn Plows, Cultivators, Straw Cutters, &c. for sale at manufacturer's prices, by

Feb. 24, 1843. PRUYN, WILSON & VOSBURGH, 39 State st. Albany.

TO RENT, FOR SALE, OR EXCHANGE, THE WOODVALE MILLS.

THESE Mills, (a Grist Mill and Saw Mill,) are situated in the pleasant town of Morris, in Morris co., New Jersey, to which there is access by a railroad, in three hours from New-York city, and command a good run of custom.

The Grist Mill consists of a building 25 by 65 feet, three stories high, with a wing 20 feet square, built within a few years, in the best manner, by days work; containing two good pairs of Burr Stones, with power and room for one or two pairs more, Bolts, Cleaning Machine, &c. of the first quality. In it are also the complete fixtures of a Linseed Oil Mill of the most approved construction, including one of the most powerful Hydrostatic Presses in this country; which would either be sold with the mill or reserved, as might suit the purchaser. The mill premises comprise about five acres of land, on which are an Overseer's House, Barn, and a spring of the purest water.

The Saw Mill, which adjoins the Grist Mill, is the only one immediately in the town; and both that and the Grist Mill, in the hands of a competent and enterprising person, might readily be made to do a lucrative business.

These mills are eligibly situated for converting into a White Lead Factory, Cotton, or Wool Mill, Machine Shop, or Foundry.

They will be rented or sold alone, or together, with about thirty acres of wood and arable land adjoining. To be rented low to a good tenant; sold low for cash, and a large part of the purchase money allowed to lie on mortage for a term of years, if desired; or exchanged for good unincumbered property in any thriving town or city, within 500 miles of New-York.

Apply personally, or post paid, to RICHARD WOOD, at Morristown, N. J. or to RICHARD & GEORGE S. WOOD, No. 261 Pearl st., New-York. *Jan.* 7, 1843.

THE HORSE HOE, OR CULTIVATOR PLOW,

IS an implement constructed and patented, within the last year, by Barnabas Langdon of Troy, N. Y. It was put in use the last spring, summer, and fall, after much labor and practical experiment had been bestowed upon it. It was exhibited at the State Fair, and also at the Rensselaer County Fair, and received a premium at both. There has been a large number made and sold the past season, and they have been thoroughly tested in various ways, by some of the best and most experienced agriculturists in the counties of Rensselaer, Saratoga, and Washington, and all testify as to their utility and usefulness, and to their superiority over any implement of the kind in general use.

They not only do the work *much better, in much less time, and at one-half the expense,* of any other Cultivator now in use; which in these times of general low prices of agricultural productions, are *three important items.*

The cultivator plow is an article made for weeding and loosening the soil, between the hills of corn, potatoes, peas, beans, and all root plants.

When weeding, half hilling, or splitting down corn hills, the weed cutters are always to be used, as represented in the figure given in the Feb. No. of the Cultivator. This operation cuts up the weeds, loosens and pulverises the soil completely, up to the hill, and by cross plowing there will be very little left for the hand hoe to do.

When corn, potatoes, or any other crop, requires earthing or hilling more than the weed cutters can do, *they* are to be taken off, and the mold-boards are to be put on; both occupy the same position on the plow, and are secured to the standard by one bolt. The mold boards throw a beautiful furrow each way, and by cross plowing, will leave the field in excellent condition for some crops without any use of the hand hoe at all.

For digging potatoes or root crops, this implement is all that can be desired by the agriculturist; and when used for this purpose, the weed cutters should be on, and the plow drawn by a double team; direct the plow under the middle of the hill just deep enough to raise the potatoes to the surface, which it will do in a most expeditious and workmanlike manner, without bruising or cutting them in the least. These Cultivators are now manufactured at the corner of King and Jacob sts., where a large number are now being prepared for spring business. They are made of the best materials, fitted up in the best manner, with *share, weed cutters,* and *mold boards,* ground bright, ready for immediate use. The price for the article will be $16, at retail, and a fair discount made to dealers in agricultural implements.

Orders addressed to BARNABAS LANGDON, or MOWRY & VAIL, 127 River st., Troy, (his authorised agents,) will receive immediate despatch. All kinds of produce will be received by them, in pay for the same. *Feb.* 21, 1843.